

# **Tell Me Who Your Friends Are?**

## **Disentangling the Interplay of Young Immigrants' Host Country Identification and Their Friendships with Natives**

Inaugural dissertation

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To my parents and my brother, Eike

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# Chapter 1

## Introduction

Stadio Olimpico, Rome, on July 8th, 1990. Witness the FIFA World Cup Final. Germany faces Argentina; the score is nil-nil with five minutes remaining. Argentinian defender Roberto Sensini has just fouled German striker Rudi Völler inside the box. German left back Andreas “Andi” Brehme is now standing at the penalty point. Runs up as the whistle blows. Shoots. Scores. Germany is leading Argentina 1:0. The rest is history.

Flash-forward to Maracanã Stadium, Rio de Janeiro, July 13th, 2014. Having not won the World Cup since Andi Brehme’s winning goal almost 25 years earlier, history has just repeated itself as Germany once again defeated Argentina by a single goal. This time, 22-year-old attacking midfielder Mario Götze scored the winning goal with five minutes left to play in the second half of extra-time.

Separated by more than two decades, Germany’s last two FIFA World Cup victories are remarkably similar. Not so the German squad. In 1990, Andi Brehme celebrated with, among others, Jürgen (Kohler), Klaus (Augenthaler), and Lothar (Matthäus), all of whom had German ancestors. In 2014, by contrast, Mario Götze joined forces not only with Bastian (Schweinsteiger), Philipp (Lahm), and Thomas (Müller), but also with Jérôme (Boateng), Mesut (Özil), and Sami (Khedira). In fact, half of the members of Germany’s 2014 World Cup squad had a migration background. And have you ever heard of Jose-Enrique Rios Alonso, Elias Abouchabaka, Sahverdi Cetin, or Noah Awuku? Born around the millennium, as of this writing these adolescents belong to Germany’s Under-16 football squad.<sup>1</sup> Ten years from now, one of these next-generation boys might lift yet another World Cup trophy for Germany.

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<sup>1</sup>[http://www.dfb.de/u-16-junioren/team-und-trainer/?no\\_cache=1](http://www.dfb.de/u-16-junioren/team-und-trainer/?no_cache=1), accessed on February 8, 2016.

How to explain this trend of a rising share of German national players with a migration background?<sup>2</sup> Time, of course, is key here. After all, ethnic diversity has been growing in Western Europe over the last decades, so more diverse national football squads simply mirror basic demographic trends (Gehring 2016; Meier and Leinwather 2013). Mesut Özil was born in Gelsenkirchen; Sami Khedira was born in Stuttgart. Growing up in Germany, isn't it natural for them to play for Germany? Increased structural integration of immigrants into German society tells another crucial part of the story. Immigrant kids' are (mostly) alright, with social rather than ethnic origin actually explaining the lion's share of seemingly ethnic disadvantages (Heath et al. 2008; Kristen and Granato 2007). A growing number of immigrant children nowadays occupies central positions in politics, economics, the entertainment industry, and sports.<sup>3</sup>

Demography and structural integration are powerful forces. But let me introduce you to Nuri Şahin, another football player. Nuri Şahin was born in Lüdenscheid, North Rhine-Westphalia, just a stone's throw away from Gelsenkirchen, where Mesut Özil came into the world in the very same year. Yet, while Mesut Özil took part in Germany's World Cup winning run, Nuri Şahin decided to play for Turkey, the country in which his parents were born. So did the brothers Hamit and Halil Altıntop, Ömer Toprak, and Hakan Çalhanoglu, all of whom were born and raised in Germany. How come?

This is not a book about football. It's about belonging to the club. Or more precisely, about immigrants' choosing which country to belong to and the consequences of this choice. For centuries, belonging to a nation or country depended on ascribed characteristics that people could hardly, if ever, change. Not anymore. In Western societies, like other social identities, ethnic identity today comes down to an individual *choice*, a so-called "ethnic option" (Waters 1990). Constrained, to be sure, by external factors such as discrimination or law, but a choice nonetheless. Nothing exemplifies this better than football players, who have to decide to wear the colors of one, and only one, country. Just listen to Nuri Şahin explaining why he's wearing the Turkish instead of the German national jersey:

I had offers from both national associations and I decided on Turkey, because I feel I'm a Turk and I've always dreamed of playing for Turkey.<sup>4</sup>

And here's how Halil Altıntop justifies his similar choice:

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<sup>2</sup>This pattern also applies to other European countries that are currently less successful on the pitch. Think about Karim Benzema and Paul Pogba (France), Marouane Fellaini and Romelu Lukaku (Belgium), or Marko Arnautović and Zlatko Junuzović (Austria).

<sup>3</sup>For the sake of brevity, throughout this book I use the term "immigrant" in a wider sense, including children of immigrants who were born and raised in the host country.

<sup>4</sup><http://en.qantara.de/node/2906>, accessed on February 8, 2016.



I may have been born in Germany, but by temperament I belong more to Turkey. The same goes for my brother Hamit. And don't forget our parents come from there.<sup>5</sup>

As Nuri Şahin's and Halil Altıntop's answers illustrate, like naturalization (Diehl and Blohm 2003), choosing one country instead of another indicates some amount of *identification* with the respective country, a feeling of belonging. Granted, such consequential choices are also shaped by factors other than identification, such as career opportunities or peer pressure. But still, if Mesut Özil or Sami Khedira did not at least partially identify with Germany, they probably would not play for the German team. At least, this is what they say themselves. Here's what Mesut Özil says about his decision:

My family ha[s] lived in Germany for three generations, I have always felt at home here[.]<sup>6</sup>

And this is Sami Khedira, explaining why he decided to play for Germany rather than for Tunisia, the country in which his father was born:

Manners in Tunisia are much looser than in Germany. I always notice that when I see children there, who grow up more freely. They're raised differently and they're more cheeky. I can't really relate to their mentality.<sup>7</sup>

Why do Mesut and Sami identify with Germany to a degree that Nuri and Halil don't? Since all four of them grew up under relatively similar circumstances, demography and structural integration alone can't tell us. What can?

Large-scale quantitative research confirms that the country of one's own birth and the country of birth of one's parents are crucial for building national identification (e.g., Maxwell and Bleich 2014). But while these unchangeable givens are important, they do not account for the whole picture. For instance, whereas Jérôme Boateng decided to play for Germany, his brother Kevin-Prince decided to play for Ghana. Parents, apparently, are not always decisive.

In fact, against the background of persisting ethnic boundaries (e.g., McLaren 2003; Semyonov et al. 2006), descendants of immigrants face the struggle of combining their parents' ethnic identifications and the host country's national identification (Phinney et al. 2006; Verkuyten and Martinović 2012). In this struggle, *friends* with the same ethnic background and friends who are natives of the host country seem to play a defining role in immigrants'

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<sup>5</sup>ebd.

<sup>6</sup><http://www.uefa.com/news/newsid=799253.html>, accessed on February 8, 2016.

<sup>7</sup><http://en.qantara.de/node/570>, accessed on February 8, 2016.

ethnic identification. In particular, researchers suspect that *friendships between immigrants and natives* influence the development of immigrants' national identification. And cross-sectional studies indeed have consistently revealed a positive association between the strength of immigrants' host country identification and the share of their native friends. That is, the stronger an immigrants' national identification is, the higher is his or her share of native friends—and vice versa (e.g., Agirdag et al. 2011; De Vroome et al. 2014; Lubbers et al. 2007; Phinney et al. 2006; Sabatier 2008; Tolsma et al. 2012; Walters et al. 2007). Similarly, identification with the country of origin is positively associated with having co-ethnic friends (e.g., Alba 1990; Ono 2002; Phinney et al. 2001; Sears et al. 2003).

There's a problem, though. Unlike ethnic origin, friends are not imposed on individuals. Quite the opposite: like identification, friendship involves a *choice* (Zeng and Xie 2008). Immigrants' families consist largely of co-ethnics, but immigrants can choose whether to befriend fellow co-ethnics and/or native peers. These friendship choices, however, may in turn be guided by immigrants' host country identification. *So how exactly are immigrants' national identification and their friendships related to each other?* Answering this chicken-and-egg question is the main task of the book you are reading.

In the remainder of this introduction, I first explain why we should even care about immigrants' national identification, about friendships between immigrants and natives, and about how both are interrelated (1.1). Subsequently, I briefly discuss what we do and don't know from previous research about the relation between national identification and native friends (1.2). Based on limitations of earlier studies, I formulate four broader research questions that I seek to answer throughout the substantive chapters of this book (1.3). The introduction closes with a short overview of the succeeding chapters (1.4).

## 1.1 Why Should We Care?

### Why Immigrants' National Identification Matters

So far, I have used the term “identification” in an everyday sense of the term. I continue to do so. For the sake of this book, I thus interchangeably use the terms *national identification* and *host country identification* in reference to “a sense of belonging to the country of settlement” (Verkuyten and Martinović 2012: 85). The counterpart to national identification is ethnic identification,

which accordingly refers to a sense of belonging to the country of origin or to the origin of one's family.<sup>8</sup>

In ethnically diverse societies, immigrants and their descendants face the challenge of combining national and ethnic identities (Phinney et al. 2006; Verkuyten and Martinović 2012). This especially applies to immigrant youths, since identity development is a key task of adolescence (Meeus 2011; Phinney 1990; Umaña-Taylor et al. 2014). From the perspective of integration research, national identification indicates *emotional integration*, implying that immigrants feel themselves a part of the host society. Yet, compared to other dimensions of immigrants' integration, comparatively few quantitative studies address immigrants' emotional integration (Kalter 2008; Leszczensky and Gräbs Santiago 2015). This is undesirable not the least because classical assimilation theories regard immigrants' identification with the host country as the last step in a successful integration process (e.g., Gordon 1964; Nauck 2001; Steinbach 2004). While I will argue in a moment that this is a simplistic view, it is astonishing that so little research has focused on the dimension that has long been regarded as the endpoint of immigrants' integration. Moreover, studying what drives the development of immigrants' host country identification is important for two major reasons.

First, many researchers, as well as the broader public, consider weak immigrant national identification, or even dis-identification, to be a problem in and of itself since it threatens social cohesion and intensifies interethnic conflict (see Maxwell and Bleich 2014; Verkuyten and Martinović 2012). Immigrants in most countries show lower levels of identification with the host society than natives do (Elkins and Sides 2007; Reeskens and Wright 2014; Staerklé et al. 2010). This pattern also applies to descendants of immigrants, who identify less strongly with their host countries than their native peers do (Phinney et al. 2006). Especially in Western Europe, this (alleged) lack of immigrants' identification with their host countries stands at the center of political as well as of scientific debates (e.g., Diehl and Schnell 2006; Ersanilli and Saharso 2011; Maxwell and Bleich 2014).

Second, it is crucial to learn more about the determinants of immigrants' national identification because identification potentially affects other dimensions of integration. For instance, some researchers relate immigrants' identity to the explanation of ethnic inequalities in the labor market and in the educational system (e.g., Altschul et al. 2006; Casey and Dustmann 2010; Nekby

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<sup>8</sup>As I discuss at length elsewhere, conceptualizing and measuring national and ethnic identification is an important issue (Leszczensky and Gräbs Santiago 2014a, 2015). In fact, I participated in the development of a German-language measure of young immigrants' ethnic and national identities, which is now ready for use (Leszczensky and Gräbs Santiago 2014b). But as I detail below, when I started working on this book there were, in my view, simply more urgent needs in research on identification and friends than measurement. This is why I decided to take one step at a time and not to make concept specification and measurement a core issue in this book. That being said, I will come back to this issue in Chapter 5.

and Rödin 2010). Similarly, some scholars argue that national identification may affect host-language proficiency (Hochman and Davidov 2014) or, as in focus here, the formation of interethnic friendships (e.g., Munniksma et al. 2015; Rutland et al. 2012). Understanding the driving forces of identificational integration therefore is indispensable to gain a broader understanding of the overall process of immigrants' integration (see Kalter 2008: 26).

### **Why Friendships between Immigrants and Natives Matter**

Ethnicity still plays a major role in shaping social relations such as friendships or marriages in ethnically diverse societies (see Kalmijn 1998; McPherson et al. 2001 for reviews). Like in the case of identification, this pattern holds true for children of immigrants as well (see, e.g., Diehl and Schnell 2006; Kao and Joyner 2004; Sears et al. 2003). In fact, ethnic segregation in adolescents' friendship networks is one of the most robust findings of integration research (e.g., Baerveldt et al. 2004; Leszczensky and Pink 2015; Moody 2001; Quillian and Campbell 2003; Smith et al. 2014; Van Houtte and Stevens 2009; Vermeij et al. 2009; Windzio and Bicer 2013). Understanding how ethnic friendship segregation arises is important for reasons similar to those for why understanding immigrants' national identification is important.

First, like national identification, interethnic friendships are a key indicator of immigrants' integration (e.g., Esser 1990; Haug 2003; Stark 2011). And again, many researchers, as well as the broader public, regard persistent ethnic friendship segregation as a major obstacle to the social integration of immigrants and their descendants. Since people often meet through friends (Grossetti 2005), existing interethnic friendships may result in additional interethnic friendships (Ellison and Powers 1994; Martinović et al. 2011). Ethnic friendship segregation thus may also reinforce itself over time, making it even more important to study why young immigrants' friendship networks continue to be ethnically segregated (Leszczensky and Pink 2015).

Second, and again like identification, ethnic friendship segregation are said to be consequential for other dimensions of immigrants' integration (see Martinović et al. 2009). For example, a lack of native friends is assumed to prevent immigrants' development of host-language proficiency (Chiswick and Miller 2001; Espinosa and Massey 1997; Esser 2006), decrease their labor market performance (Kalter 2006; Kanas et al. 2011; Lancee 2012), and preclude the benefits of interethnic friendships for reducing prejudices and discrimination (Binder et al. 2009; Pettigrew and Tropp 2006). Learning how adolescents' friendship networks become segregated along ethnic lines therefore also is crucial to gain a comprehensive picture of the integration process at large.

## Why the *Interplay* of Identification and Friends Matters

Ethnic and cultural diversity caused by migration ranks among the main social issues in many Western societies (Koopmans et al. 2015; Schaeffer 2014). Especially in formerly ethnically homogenous Western European countries, the coexistence of a native majority group and various emerging immigrant minority groups poses challenges to both the native population and citizens with an immigration background (Azzi et al. 2011; Berry et al. 2006). But while growing ethnic diversity in Western societies has led to an increase in research on its consequences for both individuals and society (Van der Meer and Tolsma 2014), this increase in research has not been equally distributed across the various dimensions of immigrants' integration. For some time, integration researchers tended to focus on structural integration (for overviews, see Heath et al. 2008; Waters and Jiménez 2005). Part of the reason for this emphasis was that classical assimilation theories maintain that immigrants' success in the labor market and in the educational system is a necessary precondition for further social, cultural, and, finally, emotional identification (e.g., Gordon 1964; Alba and Nee 1997; Esser 2006; Nauck 2001).

More recently, though, given the various links between the different dimensions of integration that I hinted at above, researchers have criticized this view as being too simplistic (see Kalter 2008: 21). Studying how different dimensions of integration are *interrelated* therefore is a key task of migration research at the dawn of the 21st century (see Esser 2009; Kalter 2008). The relation between friends and identification can be seen as one vital building block within this overarching framework.

As we have seen, it is important to understand both the development of immigrants' host country identification and the emergence of ethnic friendship segregation. I contend that doing so requires examining both processes *jointly*, because—as we will see—both processes can be assumed to be *linked*, thus making it impossible to understand one without considering the other.<sup>9</sup> This joint investigation of friends and identification further should be studied during the period of *adolescence*, because identity formation and peer relations are crucial, yet fluctuating, elements of this stage of life (Brechtwald and Prinstein 2011; Crosnoe and Johnson 2011; Giordano 2003; Meeus 2011; Steinberg and Morris 2001; Umaña-Taylor et al. 2014).

Most existing studies focusing on immigrants' national identification and their friendships with natives rely on cross-sectional data. To their credit, these studies have established a positive relation between immigrants'

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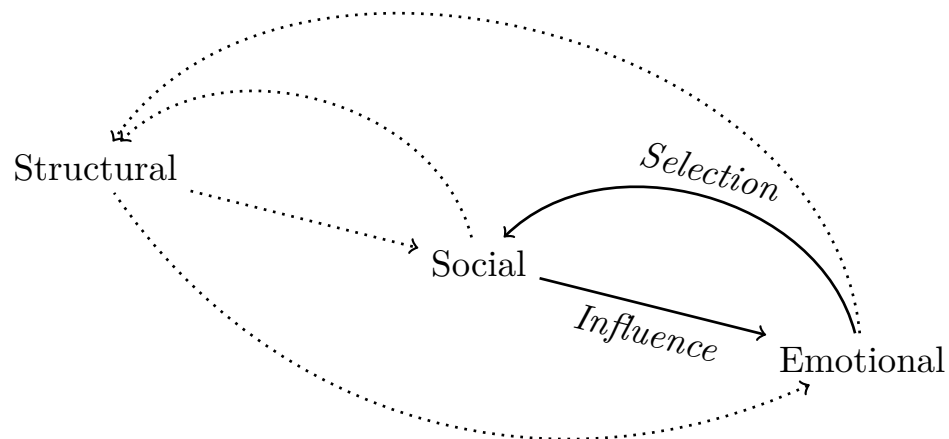
<sup>9</sup>In fact, some economists even regard the “choice of friends [as] an indicator of racial identity” (Patacchini and Zenou 2016: 86). While I obviously do not share this view, it demonstrates the fact that friends and identity are closely related, thus stressing the methodological challenges of separating both constructs and the processes that may underlie their association.

national identification and the share of native friends (e.g., Agirdag et al. 2011; Phinney et al. 2006; Sabatier 2008). That is, the stronger immigrants' identify with the host country, the more native friends they have, and vice versa. Yet, while this association is now well-known, we do not know *why* and *how* it comes about.

As we will see throughout this book, the causal arrow may run in both directions. On the one hand, native friends may increase immigrants' identification with the host country; this is what researchers label as social *influence*, since individual characteristics, such as identification, are supposed to be influenced by friends. On the other hand, identification may affect what kind of friends immigrants' choose in the first place; this is what researchers label as *selection*, for individuals may select their friends based on particular characteristics like identification. Separating selection from influence is a key task in many fields of research (see Steglich et al. 2010; Veenstra et al. 2013). Since selection and influence are not mutually exclusive, both processes also may operate simultaneously with causality running into both directions.

Let me briefly put the role of selection and influence into the context of the broader process of immigrants' integration. *Figure 1.1* depicts possible relations between three key dimensions thereof. In this book, I investigate the two solid links between the social and the emotional integration, of which friendships with natives and national identification are indicators. Using the terminology introduced above, I denote the first link, running from emotional to social integration, as selection. Accordingly, the second link, running in the reverse direction, depicts influence.

**Figure 1.1:** *Selection and Influence in the Broader Process of Immigrants' Integration*



While causal arrows help to visualize the direction of causality they do not tell us anything about *why* we would expect such causal links in the first place. In fact, selection and influence both refer to *a class of potential mechanisms* that may account for an effect of identification on friends (selection) or of friends on identification (influence). We thus face a twofold challenge. In a first step, we have to state as precisely as possible the *theoretical mechanisms* which lead us to believe that friendships affect identification, and vice versa. Testing these theories empirically in a second step requires us to *determine causal order*, which is by no means a trivial methodological task. In this book, I aim to tackle both of these challenges.

## 1.2 What We Don't Know Yet

We know by now the general pattern of immigrants' national identification and their friendships with natives. But prior studies do not tell us exactly *how and why* identification and friends are interrelated. Here are six urgent questions to which past research does not provide answers.

### What Comes First, Friends or Identification?

As noted by Vaisey and Miles (2014: 14), in many fields of study “determining causal order is both difficult and of great theoretical or substantive importance”. Existing research on friends and identification, however, cannot tell us whether immigrants' national identification affects their friendships or whether immigrants' friends affect their national identification. The main reason why we don't know is that the vast majority of earlier studies relies on cross-sectional data that do not tell us much about the direction of causality. Authors of these studies typically point to future *longitudinal* studies that should establish causal order, and rightly so.

At first glance, resolving questions of the direction of causality with panel data might seem like a rather modest goal. Alas, because of the so-called problem of *endogeneity*, it isn't. The problem of endogeneity occurs when the independent variable is correlated with the error term in a regression model (Wooldridge 2011: 54f.). A major source of endogeneity is *unobserved heterogeneity*, or omitted variables bias, which means that there is at least one independent variable that is not included in the regression model but that affects both the dependent variable and the independent variable of interest. If, for example, the country of birth affects both immigrants' national identification and their friendships with natives, estimates of the effect of native friends on national identification are biased if the model does not control for country of birth. The association between immigrants' national identification and native friends therefore might also be spurious, caused by unobserved factors that affect both identification and friends. In

this case, national identification and native friends would not be causally related at all.

Fortunately, fixed-effects (FE) models provide means to remedy the problem of unobserved heterogeneity by using variation within rather than between individuals (Brüderl and Ludwig 2014; Gangl 2010; Halaby 2004; Wooldridge 2011). To paraphrase Allison (2009: 1), this is achieved by using each individual “as his or her own control”, thus accounting for all stable intra-personal characteristics, such as country of birth.

However, FE models do not account for *reverse causality*, which is a second major source of endogeneity that threatens causal inference even if omitted variables are not an issue. Recognizing that causes precede effects, a key approach to address potential reverse causality is to test whether lagged values of the independent variable explain contemporary values of the dependent variable. While this approach makes sense intuitively, it still involves strong assumptions. In fact, lagged FE models assume strict exogeneity, which requires the idiosyncratic error term to be independent not only of past and current but also of *future* values of the independent variables (Wooldridge 2011). In other words, the assumption of strict exogeneity rules out reverse causality, making it impossible to gain unbiased estimators of allegedly reciprocal causal effects. Simply lagging the independent variable therefore does *not* solve the problem of endogeneity caused by reverse causality (Allison 2009).

Apart from my own analyses presented throughout this book, to the best of my knowledge only two other longitudinal studies have examined the interplay of immigrants’ host country identification and their friendships with natives. Their findings are inconclusive. While the results of Munniksma et al. (2015) suggest a bidirectional relation, the results of Rutland et al. (2012) indicate that the causal arrow might run from identification to friends, but not the other way around. Interpreting these findings in a causal manner, however, seems dubious, for both studies account *neither* for unobserved heterogeneity, *nor* for reverse causality. These, however, are the two key methodological challenges with which research on the relation between friends and identification has to grapple. Panel data are helpful in this respect, but they are hardly a panacea.

### What Are the Underlying Processes?

Even when applied properly, longitudinal regression-based approaches typically don’t tell us much about the micro-level *processes* that lead to the macro-level phenomena we observe empirically. Fortunately, longitudinal social network analysis offers the potential for not only resolving questions of the direction of causality, but also for more directly testing supposed theoretical mechanisms. The most important tool in this regard are so-called



*stochastic actor-oriented models* for the co-evolution of networks and behavior (SAOM, Snijders et al. 2010; Steglich et al. 2010).

SAOM are agent-based models that simulate the interrelated processes of network evolution and the development of individual characteristics such as identification. Actors are at the core of SAOM, and they are assumed to control their outgoing ties and their individual behavior and attitudes (Snijders et al. 2010). Regarding selection mechanisms, for example, SAOM can test whether immigrants' friendship choices within an observed network and given a particular opportunity structure were affected by individual characteristics such as their national identification. Regarding social influence mechanisms, for instance, SAOM can test whether immigrants tend to adjust their own identification towards that of their friends or whether having many native friends increases immigrants' national identification.

Compared to regression-based approaches used in prior longitudinal research, SAOM have several methodological advantages. To begin with, the actor-oriented approach neatly aligns with theoretical arguments about how and why individuals form friendship ties (see Leszczensky and Pink 2015). Such an approach arguably also reduces, though not solves, the problem of unobserved heterogeneity. This is because SAOM allow to control for relational tie-generating mechanisms that are beyond the scope of regression models, such as the tendency of friends becoming friends of their friends. By jointly simulating how actors' select friends and how these friends in turn influence individual characteristics, SAOM statistically separate selection from influence mechanisms, thus directly addressing the question of causal ordering (Steglich et al. 2010).

Besides simulating the co-evolution of networks and individual characteristics, SAOM also model the *interplay* of individual actions. By doing so, in contrast to many other statistical tools, SAOM explicitly capture the *micro-macro transition* that often escapes sociological research (see Kalter and Kroneberg 2014; Snijders and Steglich 2015). That is, SAOM not only allow assessment of how actors' friendship choices and their individual behavior were affected by features of both the network and individual characteristics (macro-micro and micro-micro transitions), but also of how these combined individual actions aggregate to the macro-level outcome of interest (micro-macro transition).

These methodological features make SAOM a prime example of the idea of structural individualism (Udehn 2002) as well as of the broader agenda of analytical sociology (Hedström 2005; Hedström and Bearman 2009; Kalter and Kroneberg 2014). SAOM therefore are well-suited for helping us to better understand how the relation between immigrants' national identification and their friendships with natives emerges.

### **Friendship *Selection*: It Takes Two to Tango, Doesn't It?**

Many researchers solely examine interethnic friendships from the perspective of immigrants, relying on immigrants' statements about the ethnicity of their three best friends or about their share of native friends (e.g., Haug 2003; Martinović et al. 2009). The perspective of natives, though, is equally important for understanding the formation of friendships between immigrants and natives. But surprisingly few studies address *both* friendship selection by immigrants *and* by natives at the same time.

While this shortcoming applies to much general research on interethnic friendships (see Martinović 2013 for a recent critique), it particularly applies to the association between immigrants' identification and their friendships. Prior studies accordingly focus on *friendship choices made by immigrants*, which supposedly are guided by their national identification (e.g., Munniksmma et al. 2015; Rutland et al. 2012). For instance, it is argued that immigrants with strong host country identification are more interested in having native friends since they feel more similar to them than do immigrants who do not identify with the host country. This view is in line with the common ingroup identity model, which states that a superordinate group identity, like a shared national identity, reduces biases at the subgroup level (Gaertner and Dovidio 2000). Still, few studies have investigated, let alone demonstrated, effects of group identification on immigrants' friendship choices.

In addition, past research often neglects *friendship choices made by natives*. Natives' willingness to engage in interethnic contact, however, is also crucial to the formation of friendships between immigrants and natives since it shapes immigrants' opportunities to befriend natives in the first place. Immigrants' national identification might not only increase immigrants own preferences for native friends but also how similar natives perceive them to be and, therefore, how likely they are to befriend them. While experimental research points in this direction (e.g., Verkuyten and Thijs 2010a; Verkuyten et al. 2014), this hypothesis has not been tested outside the laboratory.

To sum up, most earlier research on friendships between immigrants and natives does not account for the perspective of both parties. Accordingly, while immigrants' national identification may play a role in the friendship choices of *both* immigrants *and* natives, these two potential selection mechanisms have not been disentangled in earlier research.

### **How Exactly Is Social *Influence* Supposed to Work?**

Numerous studies hypothesize that having native friends increases immigrants' identification with the host country (e.g., Agirdag et al. 2011; Munniksmma et al. 2015; Phinney et al. 2006; Sabatier 2008). Yet, for two reasons strong empirical evidence in favor of this hypothesis is lacking. First, as discussed above, cross-sectional studies cannot rule out that the association between

friends and identification is caused by selection rather than by influence mechanisms. Second, methodological quarrels aside, there also are different *theoretical* arguments why and how friends may influence immigrants' national identification.

Studies focusing on how native friends influence immigrants' national identification usually assume that native friends *generally* support, and therefore enhance, immigrants' host country identification (see Noels et al. 2010; Sabatier 2008; Syed and Juan 2012: 1506; Yip 2005). Two major theories justify this assumption. First, identity theory states that identities are reinforced if one's personal network is composed of numerous strong ties to others with whom the identity is enacted (Deaux and Martin 2003; Stryker 1980). Second, according to the so-called common ingroup identity model (Gaertner and Dovidio 2000), individuals with cross-group friendships have a higher propensity to re-categorize their social identities so that they include both groups under a common identity. This implies that for immigrants a high share of native friends might result in increased national identification (Agirdag et al. 2011; Rutland et al. 2012).

Instead of being influenced by native friends, however, immigrants' host country identification may also be influenced by their *friends' actual levels of host country identification*. Identities can only be sustained if they are valued and accepted by significant others (see Deaux and Martin 2003; Klein et al. 2007; McFarland and Pals 2005; Noels et al. 2010). Immigrants' national identification might thus increase if, and only if, friends actually share and support national identification. Having many native friends who themselves do not identify with the host country, for instance, is unlikely to increase an immigrant's host country identification. In fact, since such a friendship network would not approve of strong host country identification, it may even weaken identification with the host country. Syed and Juan (2012) provide the only study I am aware of that separately assesses similarity of friends ethnic identification, finding that friends indeed identify similarly. But unfortunately the cross-sectional design of the study does not allow conclusions about whether friends' similarity in ethnic identity is due to ongoing shared interactions about ethnicity (*Influence*) or to a preference for like-minded friends (*Selection*).

To repeat, native friends may increase immigrants' identification *per se*, but immigrants may also generally adjust their own identification towards that of their friends, *irrespective* of their friends' ethnic backgrounds. So far, we don't know.

### **Are All Immigrant Groups Created Equally?**

Contrary to what cross-sectional studies suggest—as just discussed—there is surprisingly little empirical evidence that native friends influence immigrants' identification with the host country. Besides the challenge of disentangling

various influence and selection processes, there might be an additional substantive reason for this lack of evidence.

Integration researchers often distinguish between immigrants on the one hand and natives on the other. But while this distinction is crucial, lumping together students from various ethnic backgrounds under the umbrella term “immigrants” may also confuse things. As we propose elsewhere (Schulz and Leszczensky 2016), the social-psychological mechanisms underlying the formation of immigrants’ host country identification may depend on specific characteristics of immigrant groups within a certain receiving context (also see Diehl et al. 2016). In particular, whether native friends influence immigrants’ national identification may depend on the nature of *ethnic boundaries*. If ethnic boundaries are bright, actors clearly belong to a particular ethnic group; if ethnic boundaries are blurred, by contrast, group membership and identity are more ambiguous and thus easier to change (Alba 2005).

We hypothesized that native friends may influence immigrants’ national identification if ethnic boundaries are blurred, but that they may fail to do so if boundaries are bright (Schulz and Leszczensky 2016). Applied to the German context, we thus expected a positive association between ethnic Germans national identification and their friendships with natives. We did not, however, expect such a relation for Turkish students, because the ethnic boundary between Turks and native Germans is much brighter than that between ethnic Germans and native Germans. Our findings supported the hypotheses, but due to the cross-sectional analysis, like most other studies we were not able to draw firm causal conclusions about the direction of causality.

To conclude, the influence of friends on immigrants’ national identification may be conditional on the nature of ethnic boundaries. If this holds true, depending on which immigrant groups make up the majority of the sample, influence mechanisms might have been either over- or underestimated in studies that do not distinguish between different immigrant groups (e.g., Munniksmä et al. 2015; Rutland et al. 2012).

### **Does Relative Group Size Affect Friendship Choices Based on Immigrants’ National Identification?**

In recent years, a growing body of research has examined how ethnic diversity affects interethnic relations (see Thijs and Verkuyten 2014 and Van der Meer and Tolsma 2014 for reviews). For instance, many studies investigate whether ethnic composition in school shapes students’ interethnic attitudes (e.g., Janmaat 2014; Stark et al. 2015). Similarly, there is much research on how ethnic composition affects ethnic friendship segregation in school (e.g., Moody 2001; Smith et al. 2016; Vermeij et al. 2009).

In stark contrast to the many studies that have explored how school ethnic diversity is related to interethnic attitudes and friendships, we know

very little about the relation between ethnic school composition and ethnic, let alone national, *identification* (see Kiang et al. 2010; Leszczensky et al. 2016a; Yip et al. 2010 for notable exceptions). In particular, no study links ethnic composition in school to friendship choices based on immigrants' national identification. Doing so, however, may explain why, as we shall see, contrary to theoretical reasoning there is not much evidence that immigrants' national identification affects their friendship choices in schools in which they constitute the minority of the student body.

In principle, immigrants' national identification might both shape immigrants' friendships with native friends and affect natives' willingness to befriend immigrants. However, *opportunity structure* in terms of relative group size may affect the possibility of immigrants and natives to realize these friendship preferences. In contexts with many immigrants to choose from, natives can be very picky in choosing immigrant friends, thus they can afford to befriend those with stronger rather than weaker national identification. Immigrants themselves, by contrast, cannot be so picky if they are surrounded by a large number of natives; they might “have” to befriend some of them anyways (Blau 1974). In contexts with high shares of immigrants, by contrast, immigrants might face an opportunity structure in which they can avoid to befriend natives. In such contexts, immigrants who do not identify with the host country may choose not to befriend natives at all, but those who strongly identify with the host country have vast opportunity to satisfy their related preference for native friends. In other words, depending on the opportunity structure in the form of relative group size, immigrants may or may not be able to translate their identification-based preferences into actual friendship choices that reflect the strength of their national identification.

### 1.3 The Questions This Book Seeks To Answer<sup>10</sup>

Our joint point of departure in this book is the positive association between immigrants' host country identification and their share of native friends. As we have seen, using cross-sectional data, numerous previous studies have established that the stronger immigrants' national identification is, the higher is the share of their native friends—and vice versa. We do not yet know, however, how this relation between identification and friends arises. Above, I mentioned as a key reason for our lack of knowledge that cross-sectional

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<sup>10</sup>As this dissertation is *cumulative*, all but the first research question arose out of my own work presented throughout the succeeding chapters. This has two major consequences for readers of this book. First, writing this book and conducting the research it is based upon arguably increased my knowledge about its subject. Readers thus may resist the temptation to criticize me for, say, not practicing in Chapter 2 what I preach in Chapter 4. It's not hypocrisy, it's scientific progress; or at least I hope so. Second, here comes a spoiler alert. Introducing the research questions to some extent reveals what I will find in the chapters. If you prefer reading this book like a novel, you better skip this section.

data do not allow inference of causal ordering, especially if there is suspicion of bidirectional causality. In fact, prior studies point to future longitudinal research to provide further insights into causal ordering—and this is precisely what I intend to do.

In principle, there are four broad theoretical scenarios. Native friends may increase immigrants' national identification (*Influence*), or immigrants' national identification may increase the share of native friends (*Selection*). Both processes, of course, are not mutually exclusive (*Selection and Influence*). Finally, though, identification and friends may jointly be affected by unobserved determinants while not being causally related to each other at all (*Neither Selection, Nor Influence*). My first research question therefore is:

**Research Question 1:** Do national identification and native friendships affect one another?

While determining causal ordering is important, the ultimate goal is to understand the *underlying processes* that result in the patterns we observe empirically. In our case at hand, this requires us to simultaneously study several interrelated processes. For one thing, instead of one-sidedly focusing on immigrants', we have to examine how immigrants' national identification affects both their own friendship choices and those of natives. For another, we have to examine whether, and if so, how, immigrants' friends in turn influence immigrants' national identification. In this latter process, we can distinguish between influences of native friends per se on the one hand and more general adjustment towards friends' identification on the other. My second research question thus reads:

**Research Question 2:** How exactly do various selection and influence mechanisms account for the relation between national identification and native friendships?

Taken together—as we will learn—longitudinal studies provide relatively little evidence that friends influence immigrants' national identification. One possible reason why earlier studies have failed to identify social influence processes may be that most studies lump together various immigrant groups, evidently assuming that social influence operates similarly for all. Yet as noted above, there is reason to doubt this assumption, as ethnic boundaries may determine whether or not friends influence immigrants' national identification. While cross-sectional research hints at this possibility (Schulz and Leszczensky 2016), longitudinal evidence is missing. My third research question therefore asks whether *ethnic boundaries* indeed affect whether native friends influence immigrants' national identification:

**Research Question 3:** Does the nature of ethnic boundaries affect the degree to which native friends influence immigrants' national identification?

As we will further see, longitudinal studies not only have produced mixed evidence with respect to social influence mechanisms, but also with respect to the question of whether or not immigrants' national identification affects friendship choices. Variation in *opportunity structure* offers one explanation for these inconclusive findings. In short, relative group size may determine how far immigrants and natives can translate their identification-based *preferences* into actual friendship *choices*. In order to better understand what is going on, my fourth and final research question therefore is:

**Research Question 4:** Does relative group size matter for identification-based friendship choices?

## 1.4 Plan of Attack

This introduction is followed by five chapters. In four respective substantive chapters I attempt to answer the four research questions posed above. In the final chapter I sum up the main results and discuss their implications. *Table 1.1* provides an overview of the research questions I address in the chapters of this book as well as the data and methods that I use to answer them.

*Chapter 2* serves two purposes. First, I provide a broad theoretical framework by distinguishing four scenarios that may explain the association between immigrants' national identification and their share of native friends. In short, the causal arrow might run from identification to friends (*Selection*), from friends to identification (*Influence*), or in both directions (*Both Selection and Influence*). But the relation between identification and friends might also be spurious, caused by unobserved joint determinants rather than direct causal links (*Neither Selection Nor Influence*). Second, I conduct a first longitudinal test of the four scenarios using three-wave panel data for adolescents of Turkish origin in Germany. I do so by applying lagged first-difference models that account for both reverse causality and time-invariant unobserved heterogeneity (Allison 2009).

*Chapter 3* extends the second chapter by taking a longitudinal social networks approach. I show that such an approach allows us to draw closer to potential mechanisms underlying selection and influence processes. After reviewing the few recent longitudinal studies, I demonstrate the theoretical and methodological advantages of a dynamic network perspective. Theoretically, by taking into account all actors within a specific social context, network panel data acknowledge that the formation of interethnic friendships is a two-sided process. This allows me to study friendship choices of both immigrants and natives, which both might be affected by immigrants' national identification. In addition, given that identity levels of friends are actually measured, I can directly test different types of influence mechanisms. Methodologically, the use of network panel data allow me to use stochastic actor-oriented models that are uniquely suited to statistically separate selec-

tion from influence mechanisms (Snijders et al. 2010; Steglich et al. 2010). I apply these models to empirically test two selection and two influence hypotheses using two-wave panel data for adolescents in the Netherlands.

*Chapter 4* addresses the question of why previous longitudinal studies have failed to provide evidence of influence mechanisms. In contrast to earlier studies that neglect potential differences between immigrant groups, I show that the degree to which native friends influence immigrants' national identification may depend on the nature of ethnic boundaries. Acknowledging recent advantages in panel data analysis, I compare results obtained by different panel model specifications that rely on different strategies to identify causal effects in the presence of potential reverse causality (Allison 2014; Williams et al. 2015). Doing so provides both a further test and an extension of Chapter 2 as well as of the cross-sectional study by Schulz and Leszczensky (2016). As I discuss, the results help us to better understand the results of the preceding chapters.

The aims of *Chapter 5* are twofold. First, I conduct a robustness test of the study in Chapter 3 using newly collected network panel data. As I will show, these data, which were not available when I wrote the earlier chapter, have key advantages over those used in earlier studies. Second, going beyond a mere robustness test with superior data, I make a theoretical case for why the degree to which friendship choices are affected by immigrants' host country identification might depend on the opportunity structure in form of relative group size in school. Analyzing three waves of German network panel data, I again use stochastic actor-oriented models to test respective selection and influence mechanisms. In combination with the results of Chapter 3, my findings offer a comprehensive picture of what is—and what isn't—going on.

In *Chapter 6*, I briefly sum up how my four substantive chapters answer my four research questions and discuss their implications as well as their limitations. I close the book by suggesting fruitful avenues for future research.



**Table 1.1:** *Overview of Substantive Chapters, Their Respective Research Questions, and the Data and Methods I Use to Answer Them*

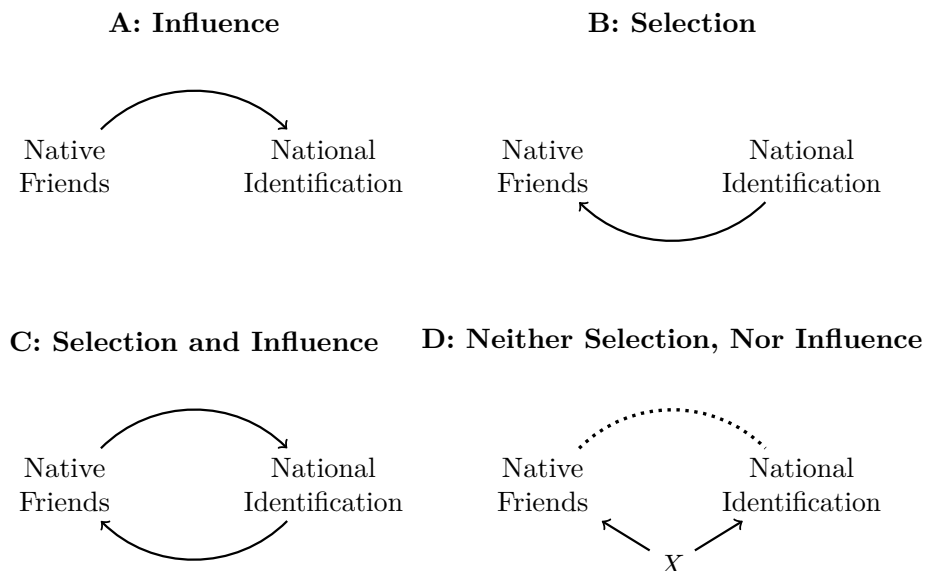
Chapter	Research Questions	Data	Method
2	Do national identification and native friendships affect one another?	Three-wave panel data (Jacob et al. 2012)	Lagged first-difference models (Allison 2009)
3	How exactly do various selection and influence mechanisms account for the relationship between national identification and native friendships?	Two-wave Dutch network panel data (Stark 2011)	Stochastic actor-oriented models for network and behavior dynamics (Snijders et al. 2010; Steglich et al. 2010)
4	Does the nature of ethnic boundaries affect the degree to which native friends influence immigrants' national identification?	Two three-wave German panel datasets (Jacob et al. 2012; Kalter et al. 2014, 2015)	Various panel model specifications (Allison 2009, 2014; Williams et al. 2015)
5	Does relative group size matter for identification-based friendship choices?	Three-wave German network panel data (Leszczensky et al. 2015)	Stochastic actor-oriented models for network and behavior dynamics (Snijders et al. 2010; Steglich et al. 2010)



## Chapter 2

# Do National Identification and Native Friendships Affect One Another?\*

A First Longitudinal Inquiry with Adolescents of Turkish Origin in Germany



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\* A slightly different version of this chapter was published in *Social Science Research* (Leszczensky 2013). Apart from linguistic adjustments to make the book more coherent, the key difference between this chapter and Leszczensky (2013) is that I have added cross-references to other chapters of this book and updated the discussion.



## **Do National Identification and Native Friendships Affect One Another?**

### **A First Longitudinal Inquiry with Adolescents of Turkish Origin in Germany**

#### **Abstract**

From earlier cross-sectional studies we know that young immigrants with strong national identification have more native friends than immigrants with weaker national identification. We do not yet know, though, the causal processes underlying this well-known association. Identifying the causal interplay of friends and identification is the primary task of this book. As a first step in this direction, in this opening chapter I propose and test four general theoretical scenarios that may account for the relation between immigrants' national identification and their friendships with natives: The causal arrow might run from friends to identification (A), but also from identification to friends (B) or in both directions (C). Finally, the relation might be spurious, caused by unobserved joint determinants instead of direct casual links between friends and identification (D). I longitudinally examine these four scenarios using three-wave panel data for adolescents of Turkish origin in Germany. For this purpose, I rely on lagged first-difference models that account for both time-invariant unobserved heterogeneity and potential reverse causality. The findings in this chapter do not provide evidence that national identification and native friends affected one another, suggesting that the relation between them may indeed be spurious.

## 2.1 Introduction

As a result of immigration to Western Europe in the second half of the 20th century, most Western European societies nowadays are ethnically and culturally diverse. This diversity poses individual as well as collective challenges, both for immigrants themselves and for the receiving societies at large.<sup>1</sup> Individually, immigrants and their descendants struggle with the question of combining ethnic and national identities (see, e.g., Phinney et al. 2006; Portes and Rumbaut 2001; Verkuyten and Yildiz 2007). While ethnic and national identities are not mutually exclusive (e.g., Verkuyten 2005), immigrants in most countries show lower levels of identification with the host country than natives (Elkins and Sides 2007; Reeskens and Wright 2014; Staerklé et al. 2010). This pattern also applies to immigrants' descendants who were born in the receiving country (Phinney et al. 2006). Collectively, Western European nation states that had formerly been rather homogeneous in terms of ethnicity and culture nowadays are confronted with the complex issue of coexistence of different groups within their borders (see, e.g., Azzi et al. 2011; Ersanilli and Saharso 2011). In most ethnically diverse societies, ethnicity still plays a major role in shaping social relations such as friendships or marriages (see Kalmijn 1998; McPherson et al. 2001). Again, this pattern still holds true for the children of immigrants, that is the second generation (see, e.g., Diehl and Schnell 2006; Kao and Joyner 2004; Sears et al. 2003).

But while these patterns of a relatively low level of host country identification and relatively few friendships between immigrants and natives are well-known, it is far from clear how they relate to each other. Previous research has proposed a long list of potential determinants of immigrants' national identification (see Verkuyten and Martinović 2012 for a review), ranging from educational segregation (Agirdag et al. 2011) and host-language proficiency (Hochman and Davidov 2014) over family socialization (Sabatier 2008) to perceived discrimination or group rejection (Badea et al. 2011; Jasinskaja-Lahti et al. 2009; Verkuyten and Yildiz 2007). Most notably, *friendships* between immigrants and natives are assumed to play an important role in the development of immigrants' national identification. And in fact, cross-sectional studies have consistently found a positive association between the strength of immigrants' national identification and the share of their native friends (e.g., Agirdag et al. 2011; De Vroome et al. 2011, 2014; Lubbers et al. 2007; Phinney et al. 2006; Sabatier 2008; Tolsma et al. 2012; Walters et al. 2007). But as most authors are quick to concede, no firm conclusions about the direction of causality can be drawn based on cross-sectional data.

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<sup>1</sup>Recall that throughout this book, I use the term “immigrant” in a broader sense, referring not only to people who themselves migrated but also to their descendants, who might actually have been born in the host society. Also recall that I use the terms “national identification” and “host country identification” interchangeably.

While there are theoretical reasons why having native friends might strengthen immigrants' host country identification, there are plausible alternative explanations for these findings as well. In fact, four competing theoretical scenarios for the association between national identification and native friends can be offered. First, as suggested by earlier studies, a high share of native friends might indeed foster the development of immigrants' national identification. Second, the causal arrow might run the other way around, and immigrants might (not) befriend natives because of their own (weak) strong national identification. Third, given that there are theoretical arguments for both directions, a genuine reciprocal causal relation between national identification and native friends is entirely plausible. If this were the case, cross-sectional studies would have overestimated the effect of having native friendships on immigrants' national identification because this effect would also have included the reciprocal effect. Finally, national identification and native friends might not be causally related at all, but both be affected by unobserved factors that simultaneously drive the development of immigrants' national identification and the formation of friendships with natives. If the correlation between host country identification and native friends were spurious, this would question previous results that report, and sometimes causally interpret, such a correlation.

In this chapter, I use longitudinal data to investigate the four scenarios just described and apply lagged first-difference models to address the methodological challenges of studying reciprocal causal relations. I rely on three-wave panel data for adolescent descendants of Turkish immigrants in Germany. Turks are not only the largest, but also the socio-economically most disadvantaged immigrant group in Germany, as in several other Western European countries (see Crul and Vermeulen 2003; Heath et al. 2008). Compared to descendants of other immigrant groups, the children of Turkish immigrants in Germany struggle in the educational system and in the labor market (see Kristen and Granato 2007; Worbs 2003). They show low levels of host national identification and have relatively little contact with natives (see Brüß 2005; Diehl and Schnell 2006; Ersanilli and Saharso 2011; Haug 2003; Nauck 2001). Turks in Germany therefore seem to be a good case in point for examining the four scenarios.

As we know from the introductory chapter of this book, disentangling the relation between national identification and native friends is important for two reasons. First, weak national identification and a lack of friendships between immigrants and natives are often considered to be problems in and of themselves, for they threaten social cohesion and intensify interethnic conflict (Huntington 2004; Verkuyten and Martinović 2012). Further, there is strong support for Allport's (1954) contact hypothesis in that interethnic friends reduce prejudices and improve interethnic attitudes (e.g., Binder et al. 2009; Feddes et al. 2009). National identification is similarly seen as a means to reduce negative feelings between groups (see, e.g., Gaertner and Dovidio 2000;

Verkuyten and Martinović 2012). Second, it is crucial to learn more about the determinants of national identification and native friendships because each has meaningful consequences for other dimensions of integration as well. They contribute, for instance, to the explanation of ethnic inequalities in the labor market and in the educational system (see, e.g., Altschul et al. 2006; Kalter 2006; Kanas et al. 2011; Nekby and Rödin 2010). Native friends are also beneficial to immigrants to learn the language of the receiving country (e.g., Chiswick and Miller 2001; Espinosa and Massey 1997). Examining the relation between national identification and native friends therefore helps to gain a better understanding of the integration process at large.

The remainder of this chapter is structured as follows. I first discuss the four different theoretical scenarios that may account for the association between national identification and native friends (2.2). Then I introduce data and methods (2.3). After presenting the results (2.4), I close the chapter by discussing the main finding and its implications (2.5).

## 2.2 Theory

Previous research has repeatedly documented a positive association between the strength of immigrants' national identification and the share of their native friends (e.g., Agirdag et al. 2011; De Vroome et al. 2011, 2014; Hochman 2010; Lubbers et al. 2007; Phinney et al. 2006; Sabatier 2008; Tolsma et al. 2012; Walters et al. 2007).<sup>2</sup> Immigrants with many native friends thus tend to identify more strongly with the host country than do immigrants with few or no native friends, and vice versa. *Figure 2.1* illustrates four different scenarios that might account for this association. In scenario A, the causal arrow runs from native friends to national identification. In scenario B, it is the other way around, and host country identification affects the formation of friendships with natives. Scenario C describes a genuine reciprocal causal relation in which both causal paths operate jointly. Finally, in scenario D, there is no causal relation between national identification and native friendships at all. Instead, the correlation between them is spurious, caused by unobserved factors that determine both national identification and native friendships. I proceed by discussing all four scenarios as well as related theoretical mechanisms and empirical findings.

### 2.2.1 Scenario A: Why Native Friends Might Increase Immigrants' National Identification

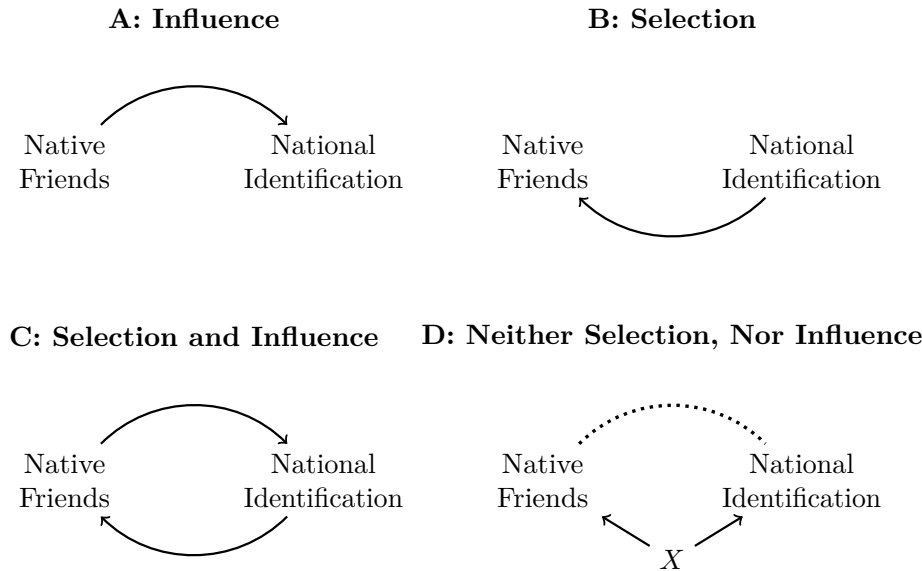
Researchers have demonstrated the benefits of having native friends for a variety of outcomes such as immigrants' labor market performance (e.g.,

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<sup>2</sup>In line with this finding, studies on ethnic identity report a positive relation between ethnic identity and co-ethnic friends (e.g., Alba 1990; Ono 2002; Phinney et al. 2001, 2006; Sears et al. 2003).



**Figure 2.1:** *Four Scenarios for the Relation between Immigrants' National Identification and Native Friends*



Kalter 2006; Kanas et al. 2011) or host-language proficiency (e.g., Chiswick and Miller 2001; Espinosa and Massey 1997). With respect to national identification, classical assimilation theories consider interethnic contact, especially friendships between immigrants and natives, a precondition for identificational assimilation (see, e.g., Gordon 1964; Nauck 2001). It is therefore not surprising that friendships with natives are among the most prominent proposed determinants of immigrants' national identification. More precisely, many studies suggest that a high share of native friends increases the strength of identification with the host country (e.g., Agirdag et al. 2011; De Vroome et al. 2011, 2014; Hochman 2010; Lubbers et al. 2007; Phinney et al. 2006; Sabatier 2008; Tolsma et al. 2012; Walters et al. 2007). In the literature, this hypothesis is derived from four theories: social identity theory, identity theory, the contact hypothesis, and the common ingroup identity model.<sup>3</sup>

According to *social identity theory* (Tajfel and Turner 1986), individuals strive for positive social identity, as this results in high self-esteem and contributes to psychological well-being. Positive social identity is created

<sup>3</sup>In later chapters I extend existing theoretical approaches on how friends may influence immigrants' national identification. In Chapter 3, I additionally discuss, and test, the possibility that immigrants adjust towards the identification of their friends, irrespective of whether or not these friends are natives. In Chapter 4, I further hypothesize that the nature of ethnic boundaries between the native population and specific immigrant groups determines whether or not native friends shape immigrants' national identification. In Chapter 5 I develop and test an argument about how opportunity structure affects identity-based friendship selections.

by favorable comparisons between groups with respect to salient attributes. For members of low-status groups there are different individual strategies to improve their social identity, one of which is to change group membership and to become a member of a higher-status group. For immigrants, who are often members of low-status ethnic minority groups, this might be achieved by identifying more strongly with the host country. This strategy, however, is only feasible if group barriers are perceived to be permeable (see Skrobanek 2009; Verkuyten and Martinović 2012). Friendships with natives might be interpreted as an indicator of the permeability of ethnic group boundaries and therefore increase the propensity of immigrants to identify with the host country.

*Identity theory* (Stryker 1980) states that people possess multiple identities which are related to multiple social roles. Social roles are embedded in social relationships; how committed a person is to a social role depends on the extent to which his or her social relationships are built around this role (see also Simon 2004). Following this reasoning, Deaux and Martin (2003) and McFarland and Pals (2005) argue that friends might either support or reject identifications. Identifications thus are either reinforced or devalued and eventually abandoned, depending on the degree to which they are recognized and accepted by friends. In particular, changes in the ethnic composition of friendship networks might motivate immigrants to adjust to the identification that most of their (new) friends share (see Hochman 2010; McFarland and Pals 2005). Therefore, it can be assumed that an increase in the portion of native friends raises an immigrants' national identification (see Hochman 2010; Lubbers et al. 2007).

*Intergroup contact theory* (Allport 1954; Pettigrew 1998) argues that under certain conditions intergroup contact reduces intergroup prejudice and improves intergroup attitudes. The social psychological literature provides strong support for this hypothesis in that cross-group friendships generally reduce prejudices and improve attitudes towards other groups, which also applies to ethnic groups (see Davies et al. 2011 and Pettigrew and Tropp 2006 for reviews). The problem of causal sequence was also prevalent in this area of research (Pettigrew 1998), but recent longitudinal studies have shown that the causal direction runs mainly from friendships to attitude change, rather than the other way around (e.g., Binder et al. 2009; Feddes et al. 2009). In addition to this finding, a longitudinal study by Duckitt and Mphuthing (1998) suggests that intergroup attitudes drive group identification, but not the reverse. Taken together, these findings imply that native friendships might increase national identification by first improving interethnic attitudes, which then raise national identification.

The *common ingroup identity model* (Gaertner and Dovidio 2000) also points to the importance of interethnic friendships in identification processes (see Agirdag et al. 2011; Munniksma et al. 2015; Rutland et al. 2012). The model argues that persons with cross-group friendships have a higher

propensity to re-categorize their social identities so that they include both groups under a common identity. According to Agirdag et al. (2011), this implies that for immigrants a high share of native friends might result in increasing national identification. This argument is compatible with dual identities because it is not required that immigrants give up their ethnic identity, but rather combine this ethnic identity with a superordinate national identity (see Gaertner and Dovidio 2000; Rutland et al. 2012).

To conclude, several theories suggest that a high share of native friends increases immigrants' identification with the host country. Cross-sectional studies have consistently obtained results that are in line with this hypothesis, but they could not rule out the possibility of reverse causality. Solid longitudinal evidence is still missing.

### **2.2.2 Scenario B: Why Immigrants' National Identification Might Foster Friendships With Natives**

It is a universal phenomenon that friendship networks are quite homogeneous in terms of, among others, ethnicity (see McPherson et al. 2001 for a review). Albeit terminology slightly differs, researchers typically explain (interethnic) friendships as arising from the interplay of two social forces: preferences and opportunities (e.g., Martinović et al. 2009; Wimmer and Lewis 2010).<sup>4</sup> Although national identification has rarely been included in studies that focus on the formation of friendships between immigrants and natives (but see Rutland et al. 2012), identification might affect both immigrants' preferences and opportunities for contact with natives.

Arguably the most important *preference* is homophily, which is the preference for friends who are similar to oneself on salient attributes such as ethnicity, religion, or education (see Kandel 1978; McPherson et al. 2001; Wimmer and Lewis 2010). Theoretically, homophily can be derived from social exchange theory, since interactions with similar others lower transaction costs and are more rewarding (see Leszczensky and Pink 2015; Völker et al. 2008: 327). Adolescent immigrants indeed report higher preferences for same-ethnic friends than for interethnic friends (e.g., Brüß 2005; Phinney et al. 1997; Verkuyten and Kinket 2000). According to social identity theory (Tajfel and Turner 1986), this ingroup favoritism is further increased by strong identification with the group, because favoring one's own group over other groups is one way to establish a positive social identity (see also Duckitt and Mphuthing 1998; Kinket and Verkuyten 1999; Verkuyten 2002). In line with this argument, there is evidence that strong identification with the ingroup is related to a more positive in-group evaluation (see Kinket and Verkuyten 1999; Phinney et al. 2006: 80 ff.; Phinney et al. 1997; Verkuyten 1992, 2002).

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<sup>4</sup>I would argue that additional forces that are discussed in the literature, like third-party influences (e.g., Martinović et al. 2009) or balancing mechanisms (e.g., Wimmer and Lewis 2010), could ultimately be broken down into either preferences or opportunities.

Immigrants who strongly identify with the host country therefore can be expected to be more willing to befriend natives than immigrants with weak national identification are likely to be.<sup>5</sup>

National identification might further determine *opportunities* for interethnic contact. This is because the chance that immigrants engage in contact with natives also depends on the degree to which natives are willing to interact with immigrants. From the perspective of natives, immigrants' national identification and related behaviors might in this regard function as a signal for similarity. Natives might perceive immigrants who identify with the host country as being more similar to themselves and therefore befriend them more often than they would immigrants who do not identify with the host country (see Van Oudenhoven et al. 1998). This might especially apply to immigrants from ethnic groups whose social distance to the native population is large (see Rutland et al. 2012), such as Turks in Germany. Brüß (2005) finds that despite having relatively few contact with native German peers, Turkish adolescents in Germany hold quite favorable views of German adolescents, whereas German adolescents do not express such warm feelings towards their Turkish peers (see Kinket and Verkuyten 1999; Verkuyten 1992 for similar findings in the Netherlands). However, Turkish adolescents who strongly identify with Germany might be viewed more favorably by their German peers and therefore be able to befriend natives. For instance, Van Oudenhoven et al. (1998) show that natives exhibit more positive feelings toward ethnic minority members who adapt to the host society.<sup>6</sup>

In sum, although the impact of immigrants' national identification on friendships with natives has been less frequently studied than the opposite causal direction, there are theoretical reasons for this causal path as well. This is also acknowledged by the very fact that most studies that focus on the impact of native friends on immigrants' identification with the host country caution that the causal arrow might also run the other way around (e.g., De Vroome et al. 2011; Lubbers et al. 2007; Tolsma et al. 2012; Walters et al. 2007).

### **2.2.3 Scenario C: Why Immigrants' National Identification and Native Friendships Might Affect One Another**

This scenario is straightforward: If at least some of the mechanisms discussed above for each causal direction operate empirically, there is a mutual causal relation between immigrants' national identification and native friends. In

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<sup>5</sup>This hypothesis does not necessarily imply that immigrants who do not identify with the host country hold negative views about natives. For the argument, preferring same-ethnics over natives is sufficient, irrespective of whether immigrants reject native peers or simply view them less favorably than their same-ethnic peers (see also Brewer 1999).

<sup>6</sup>While I am not able to empirically test this hypothesis in the current chapter, I will address natives' friendship choices in more detail in the next chapter.

this case, the causal arrow would not only run from native friends to national identification (as in scenario A) but also from national identification to native friends (as in scenario B).

In the broader literature, these two causal paths are more generally discussed as *influence*, or socialization, on the one hand, and *selection* on the other (see, e.g., Kandel 1978; Steglich et al. 2010). Influence refers to the tendency of people to become more similar to their friends over time (as in scenario A), whereas selection refers to the tendency to affiliate with people who are already similar to oneself (as in scenario B). Of course, selection and influence are not mutually exclusive, with research in various fields showing that in many cases both types of mechanisms are at work (e.g., Steglich et al. 2010; Veenstra et al. 2013). In fact, many authors assume a reciprocal relation between immigrants' national identification and native friends, either by explicitly saying so (e.g., Alba 1990; Deaux and Martin 2003) or by acknowledging the possibility of reverse causality while focusing on one causal direction.

#### **2.2.4 Scenario D: Why There Might Be No Causal Relation between National Identification and Native Friendships At All**

In the final theoretical scenario, host country identification and native friendships are not causally associated with each other at all. In this scenario, two necessary conditions have to be met. First and foremost, there simply must be *no* causal effect in either direction; so all of the hypotheses presented above either have to be wrong or have to depend on certain conditions that may not be fulfilled for adolescents of Turkish origin in Germany.<sup>7</sup> As a second condition, unobserved factors have to exist that jointly determine national identification and native friends. Although it might not seem likely that both conditions are fulfilled, this might be the case for the following reasons.

As we have seen, several theoretical arguments can be put forward for both directions of causality. Yet besides the fact that theories are, by definition, allowed to be contradicted by empirical observation, there are specific reasons why the general theoretical mechanisms described above might not, or only partly, operate in the case of adolescent Turks in Germany.<sup>8</sup>

With respect to the impact of native friendships on immigrants' national identification, immigrants might not only perceive native friends as an indicator of the permeability of group boundaries, but also as an indicator of the decrease in status differences between groups. As a consequence, it

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<sup>7</sup>I will further elaborate on two of these conditions in Chapter 4, namely perceived discrimination and the incompatibility of national and ethnic identities, which are also briefly discussed below.

<sup>8</sup>I will revisit this issue in more detail in Chapter 4.

might actually no longer be necessary for immigrants with many native friends to improve their social identity, since it does not prevent them from having high-status majority-group friends. Next, friendships in adolescence, and particularly interethnic friendships, change quite frequently (see Poulin and Chan 2010 for a review). In contrast, ties to family members, which are especially important for Turks in Germany (see, e.g., Haug 2003), are highly stable. Since family members do not change their ethnicity, it may be argued against identity theory that relatively fluent friendships might not affect deeper personal developments that underlie identification processes. Research on the contact hypothesis further shows that the beneficial effect of interethnic friendships on interethnic attitudes is generally smaller for minority group members than for majority group members (e.g., Binder et al. 2009). Since the evidence for the additionally required effect of these improved attitudes on identification is also rather weak (see Duckitt and Mphuthing 1998), the overall effect of native friendships on national identification might be negligible. Importantly, many immigrant groups are low-status minority groups, so for them, at least, one of Allport's (1954) four optimal conditions for contact is not met (see Pettigrew 1998). Finally, although ethnic and national identities are in principle not mutually exclusive, they operate at the same level and often compete in countries like Germany that traditionally have been ethnically rather homogeneous (see e.g., Chryssochoou and Lyons 2011; Phinney et al. 2006; Verkuyten and Yildiz 2007). Turks in Germany may therefore often perceive ethnic and national identities as being incompatible (see also Verkuyten and Martinović 2012), which would decrease their chances of developing a superordinate national identity, as suggested by the common ingroup identity model.

With respect to the impact of national identification on native friendships, national identification might not be crucial for preferences and opportunities. Things other than host country identification might simply be more important for contact preferences of adolescents. For example, Stark and Flache (2012) showed that ethnic homophily is often an unintended byproduct of opinion homophily. Similarly, immigrants' opportunities to engage in interethnic contact might be unrelated to their national identifications. If natives are unwilling to befriend immigrants, this might very well be due to prejudices related to ethnicity per se (e.g., Brüß 2005; Skrobanek 2009) rather than to immigrants' weak national identification, which might not (always) be visible to peers.

Whether or not the theoretical mechanisms discussed so far are at work is an empirical question. But what about the second condition for scenario D, that is, what about unobserved determinants that may simultaneously increase, or decrease, both immigrants' national identification and friendships with natives? The lists of proposed determinants of national identification and native friends are long (see, e.g., Martinović et al. 2009; Verkuyten and Martinović 2012). More importantly, there are numerous *joint* determinants

such as host-language proficiency, perceived discrimination, parental attitudes, age at migration, educational level, or occupational status. No single study can claim to adequately control for all of these factors. Let me illustrate this point using the examples of perceived discrimination, host-language proficiency, and parental attitudes.

If immigrants are discriminated, or rejected, by natives, it is unlikely that they will identify with the host country (see Badea et al. 2011; De Vroome et al. 2014; Portes and Rumbaut 2001; Skrobanek 2009). A similar argument can be made for native friendships in that rejection by natives directly influences immigrants' ability to engage in interethnic contact. Perceived discrimination should therefore decrease both national identification and the share of native friends, and indeed it does (e.g., Badea et al. 2011; Brüß 2005; Jasinskaja-Lahti et al. 2009; Maxwell 2009; Nauck 2001; Verkuyten and Yildiz 2007). Similarly, research has identified host-language proficiency as an important condition both for the development of national identification and for the formation of native friendships (see, e.g., De Vroome et al. 2011, 2014; Martinović et al. 2009; Phinney et al. 2001). Finally, there is evidence that parental attitudes affect both adolescents' national identification (e.g., Sabatier 2008) and adolescents' friendships with natives (e.g., Edmonds and Killen 2009; Munniksma et al. 2012), because parents transmit related norms and values to their children. However, to the best of my knowledge, no study on the relation between national identification and native friends adequately controls for perceived discrimination, host-language proficiency, and parental attitudes.

### **2.2.5 A, B, C, or D? Implications of the Four Scenarios for Previous Research**

Due to their cross-sectional designs, previous studies were not able to empirically investigate the four scenarios depicted above. If native friends affect national identification but not the other way around (scenario A), this would lend support to earlier cross-sectional studies that argued for this relation but did not strictly test it (e.g., Agirdag et al. 2011; De Vroome et al. 2011; Phinney et al. 2006; Sabatier 2008). If, by contrast, host country identification affects native friends but the opposite causal path does not exist (scenario B), the findings of previous studies might often have been wrongly interpreted as evidence of the importance of native friends for national identification. In case of a genuine reciprocal causal relation (scenario C), the impact of native friends on immigrants' national identification might generally have been overestimated, since this effect would also have included the reciprocal effect of identification on friends. Finally, if there is neither a causal path from host country identification to native friends, nor the opposite (scenario D), the association found by many cross-sectional studies might be spurious.

## 2.3 Data and Methods

### 2.3.1 Data

I use three-wave German panel data to examine the association between national identification and native friends. The data come from the project *Immigrants' Children in the German and Israeli Educational Systems* (Jacob et al. 2012).<sup>9</sup> The overarching goal of the project was to investigate the reasons for differences in educational attainment between children and youths with and without a migration background; a special focus rested on educational transitions at crucial transition points. The target group in the German substudy consists of students from families originally coming from Turkey and the former Soviet Union, and from a native comparison group. The children and adolescents, as well as their parents, filled out questionnaires covering a wide range of topics, such as educational decisions, social contacts, and migration-specific questions. For the purpose of this chapter, the data are unique, because they include information on both adolescents' national identification and their friendships with natives at three points in time. In contrast to cross-sectional datasets, the data therefore allow to assess the four scenarios outlined in the theoretical section.

For the empirical analyses, I restrict the sample to second-generation Turks who were attending 9th or 10th grade at a lower secondary school (*Hauptschule*), an intermediate secondary school (*Realschule*), or a comprehensive school (*Gesamtschule*). In the first wave, 779 Turkish students were interviewed. Due to missing values and panel attrition in wave 2 and, especially, in wave 3, complete data for all three points in time are available for 375 students. I use only these 375 students in the analyses. The mean age in the first wave is 15.8 years; more than half of the respondents are girls (56%).

The first wave of data was collected during the 9th or 10th school year between November 2007 and September 2008. The dataset consists of two subsamples that I use in the analysis: a household survey and a school survey. The respondents in the household survey were drawn randomly from data of registration offices in 18 cities in the three federal states of North Rhine-Westphalia, Hamburg, and Hesse, thereby oversampling immigrants from Turkey and the former Soviet Union. Additional school surveys were conducted to compensate for unanticipated low response rates (about 28 percent). The school survey targeted schools with high shares of immigrants in 27 cities within the same federal states; in these schools, all students from grades nine and ten with a Turkish or a former Soviet Union background were interviewed. The school survey makes up three quarters of the total sample. The dataset is thus in part a clustered convenience sample and

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<sup>9</sup>For further information on the project, see the project's website: <http://www.migration.uni-jena.de/project2/>, accessed on December 14, 2015.



therefore not representative of young Turks in Germany. I control for the different sampling methods in the analysis.

Depending on the type of school attended, the school years during which the first wave was conducted are supposed to be the last years of schooling. Between wave 1 and wave 2, almost three quarters of the students indeed left school. The second and third interviews were each conducted approximately one year later. In the first wave, students in the household sample were interviewed face-to-face at home using standardized questionnaires, whereas students in the school survey filled out only slightly adapted paper-and-pencil questionnaires at school. Additionally, all students participated in standardized tests of reading comprehension and cognitive ability. In the second and third waves, computer-assisted telephone interviews (CATI) were used for all students. The telephone interviews contained selected identical repetitive questions, including those referring to identification and friendships.

### 2.3.2 Variables

Since I am interested in estimating the reciprocal effects between national identification and native friends, both are dependent as well as independent variables.

***National identification*** National identification is based on the degree to which the respondents felt German. The students ranked themselves on a five-point Likert scale, ranging from 1 “not at all” to 5 “completely”.

***Native friends*** Native friends are operationalized by the share of German friends among the respondents’ three best friends. The students provided information on the country of birth of their three best friends as well as on the language they speak with those friends. I defined a friend as German if he or she was born in Germany and speaks predominantly German with the respondent.<sup>10</sup> Based on this information, I created an index ranging from 0 to 1 that indicates the percentage of German friends.

Applying both cross-sectional and longitudinal methods, I distinguish between time-invariant and time-variant control variables.

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<sup>10</sup>For the best friend, there is also information on the country in which his or her mother was born. I did not use this information, because otherwise mere changes in the order of the three best friends might mistakenly be regarded as changes in the share of native friends. As a result of this decision, the share of native friends is probably underestimated. However, alternative models that used only the ethnicity of the best friend, not reported here, did not alter the overall conclusions.

***Time-invariant control variables*** Time-invariant control variables include sex, type of subsample and host-language proficiency.<sup>11</sup> Sex was coded 1 for girls and 0 for boys. The type of subsample is a dummy variable with 1 for students in the school survey and 0 for students in the household survey. Host-language proficiency was measured by means of a German literacy reading test developed by psychologists in which the students had to read three short texts and answer 21 related multiple-choice questions (see Jacob et al. 2012).

***Time-varying control variables*** Time-varying control variables include ethnic identification, age, and educational transitions. Ethnic identification was measured identically to national identification, but in reference to Turkey rather than to Germany. A value of 1 therefore indicates that the respondent did not at all identify themselves as Turkish, whereas a value of 5 indicates that he or she completely identified themselves as Turkish. Age is a metric variable assessed on a monthly basis. I control for educational transitions because a transition might go hand in hand with changes in the ethnic composition in important social contexts and thus with changes in opportunity structures with respect to native friendships. The variable is expressed as a dummy variable equal to 1 if a student did not attend the same school as in the previous year, otherwise as 0.

*Table 2.1* summarizes all variables and provides descriptive statistics for all available points in time separately.

### 2.3.3 Analytical Strategy

There are two major methodological challenges to analyzing the relation between national identification and native friends. First, joint determinants might not, or only partly, be measured; so there might be unobserved heterogeneity (as in scenario D). Second, as the direction of causality is unclear, there might be reversed, or bidirectional, causality (as in scenario A, B, or C). Technically speaking, both unobserved heterogeneity and reverse causality are sources of endogeneity because they imply a correlation between at least one independent variable and the error term (Wooldridge 2011). As is well known, estimates obtained by conventional statistical models are

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<sup>11</sup>I am aware of the fact that host-language proficiency might change over time. Because host-language proficiency is only measured in the first wave, however, I have to treat this variable as time-invariant. I will come back to this point in the discussion.

**Table 2.1:** *Descriptive Statistics of the Variables ( $n = 375$ ;  $S.D.$  = Standard Deviation;  $w$  = Wave)*

	Range	Mean	$S.D.$
<i>Key Variables</i>			
National identification (w1)	1/5	2.18	1.08
National identification (w2)	1/5	2.55	1.09
National identification (w3)	1/5	2.67	1.09
Native friends (w1)	0/1	.44	.40
Native friends (w2)	0/1	.53	.38
Native friends (w3)	0/1	.51	.38
<i>Control Variables</i>			
Ethnic identification (w1)	1/5	4.36	1.02
Ethnic identification (w2)	1/5	4.03	1.11
Ethnic identification (w3)	1/5	4.08	1.12
Educational transition (w1)	0/1	-	
Educational transition (w2)	0/1	.74	
Educational transition (w3)	0/1	.87	
Age (w1)	14/18.4	15.84	.79
Host language proficiency (w1)	3/21	14.38	3.67
Girl	0/1	.56	
School survey	0/1	.77	

*Source:* Immigrants' Children in the German and Israeli Educational Systems.

biased in the presence of endogeneity. Fortunately, panel data provide means to deal with both challenges.<sup>12</sup>

Panel data can help to remedy the problem of *unobserved heterogeneity* by exploiting variation within rather than between individuals. In particular, fixed-effects (FE) models control for all stable characteristics, even if these were not measured, thus accounting for time-invariant unobserved heterogeneity (see Allison 2009; Brüderl and Ludwig 2014; Gangl 2010; Halaby

<sup>12</sup>In principle, the method of instrumental variables (IV) also poses a solution to the problem of endogeneity. This is achieved by replacing the endogenous independent variable with an exogenous variable that is correlated with the replaced independent variable but, unlike the original independent variable, not with the error term (see, e.g., Angrist and Pischke 2009; Wooldridge 2011). Yet the application of IV methods depends on the existence of an adequate instrument, which is rarely at hand. Moreover, it is a very strong but untestable assumption that the instrument is not correlated with the error term. Longitudinal social network analysis offers another approach by allowing the application of simulation models that separate selection from influence processes (see Steglich et al. 2010). While I will in fact demonstrate the benefits of such an approach in Chapters 3 and 5, adequate network panel data were, to the best of my knowledge, not available for analyzing national identification when I started working on the current chapter.

2004; Wooldridge 2011). FE models are not only more elegant, but also more effective than the desperate alternative approach of trying to control for as many of the potential determinants as possible by including a vast number of explanatory variables in regression models. In this regard, FE models are also superior to random-effects (RE) models, which also use variation between individuals and therefore do not account for time-invariant unobserved heterogeneity.<sup>13</sup> Yet despite this invaluable advantage, FE models have rarely been applied in research on national identification and native friends (but see Hochman 2010).

With respect to the issue of *reverse causality*, cross-sectional studies on host country identification and native friendships typically point to future longitudinal research to disentangle the causal interplay. The main idea is to lag the independent variable in order to account for causal ordering. Unfortunately, though, even longitudinal data are no panacea for addressing questions about the direction of causality. The reason is that both FE and RE models make the key assumption of strict exogeneity. This assumption requires the idiosyncratic error term to be independent not only of past and current, but also of *future* values of the independent variables, thus effectively ruling out feedback processes (see Allison 2009; England et al. 2007; Levanon et al. 2009; Wooldridge 2011).

To make matters concrete, think of how to estimate the reciprocal effects between national identification and native friends. Borrowing the notation from England et al. (2007), these effects might be expressed as the following two fixed-effects models with reciprocal lagged variables to account for both time-variant unobserved heterogeneity and causal ordering (see also Allison 2009; Levanon et al. 2009):

$$\text{Id}_{it} = \mu_0 + \beta_1 \text{Fr}_{i,t-1} + \beta_2 \mathbf{X}_{i,t-1} + \alpha_i + \epsilon_{it} \quad (2.1)$$

$$\text{Fr}_{it} = \tau_0 + \gamma_1 \text{Id}_{i,t-1} + \gamma_2 \mathbf{X}_{i,t-1} + \delta_i + v_{it}. \quad (2.2)$$

Id and Fr represent national identification and native friendships, each being the dependent variable in one equation and a lagged explanatory variable in the other equation.  $\mathbf{X}$  is a vector of time-varying control variables;  $\alpha_i$  and  $\delta_i$  stand for the effects of all time-invariant unobserved variables;  $\epsilon_{it}$  and  $v_{it}$  are random errors that are assumed to be independent of each other as well as of the  $\mathbf{X}$  variables.

Unfortunately, the equations 2.1 and 2.2 cannot be estimated consistently with standard OLS methods for fixed-effects models, because  $\epsilon_{it}$  and  $v_{it}$  are necessarily correlated with both  $\text{Id}_{it}$  and  $\text{Fr}_{it}$  at later points in time, thus

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<sup>13</sup>Despite claims to the opposite, RE models that include lagged values of the *dependent* variable as an additional explanatory variable are *not* a proper solution to the problem of unobserved heterogeneity. The reason is that RE models, like FE models, rely on the key assumption of strict exogeneity (Wooldridge 2011). Including lagged values of the dependent variable necessarily violates this assumption and results in biased estimation (see Allison 2009; Brüderl and Ludwig 2014; Halaby 2004).

violating the key assumption of strict exogeneity. Lagging the independent variable therefore does *not* solve the problem of endogeneity caused by reverse causality (see also England et al. 2007: 1246; Levanon et al. 2009: 874f.).

To overcome this problem, I follow Allison (2009) and take first differences. With three waves of data, the equations are:

$$\text{Id}_{i3} - \text{Id}_{i2} = (\mu_3 - \mu_2) + \beta_1(\text{Fr}_{i2} - \text{Fr}_{i1}) + \beta_2(\text{X}_{i2} - \text{X}_{i1}) + (\epsilon_{i3} - \epsilon_{i2}) \quad (2.3)$$

$$\text{Fr}_{i3} - \text{Fr}_{i2} = (\tau_3 - \tau_2) + \gamma_1(\text{Id}_{i2} - \text{Id}_{i1}) + \gamma_2(\text{X}_{i2} - \text{X}_{i1}) + (v_{i3} - v_{i2}). \quad (2.4)$$

The fixed-effects are differenced out.  $\epsilon_{it}$  and  $v_{it}$  are still random errors that are assumed to be independent of each other as well of all X variables, Id and Fr. Equations 2.3 and 2.4 can consistently be estimated by separately applying OLS (see Allison 2009: 94).<sup>14</sup> By controlling for both time-invariant unobserved heterogeneity and reverse causality, these *lagged first-difference models* provide a rather strict test to assess the causal interplay of national identification and native friends.<sup>15</sup>

To investigate the four scenarios underlying the relation between national identification and native friends, I start with cross-sectional OLS regressions predicting national identification at all three points in time. This gives us an initial impression of the strength and direction of the relation between national identification and native friends, without worrying about methodological problems and causal inference (see England et al. 2007; Levanon et al. 2009 for a similar approach). Switching to longitudinal analysis, I account for both time-variant unobserved heterogeneity and potential reverse causality by estimating the two lagged first-difference models as specified by equations 2.3 and 2.4. Robust standard errors are calculated to adjust for autocorrelation.

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<sup>14</sup>Note that this strategy is only feasible if there are observations at exactly three points in time. For more points in time, the structural equation framework suggested by Allison and colleagues might be applied (see Allison 2009; England et al. 2007; Levanon et al. 2009).

<sup>15</sup>After a slightly different version of this chapter was published (Leszczensky 2013), Vaisey and Miles (2014) published a critique of the lagged first-difference (LFD) model. In a nutshell, their argument is that the use of LFD models may lead to misleading conclusions if the lags between panel waves do not correspond to the real-world processes under study. I will come back to this issue in an updated discussion at the end of this chapter as well as in Chapter 4. Also note, though, that I already briefly addressed this potential problem in the discussion of the published version of this chapter (Leszczensky 2013: 785), which appeared before Vaisey and Miles (2014).

## 2.4 Results

### 2.4.1 Descriptive Statistics

At all three points in time, roughly half of the Turkish students' friends were natives. On the aggregate level, the share of native friends increased from Wave 1 to Wave 2, whereas it remained stable between Wave 2 and Wave 3 (see *Table 2.1*). With respect to national identification, the Turkish students barely identified themselves as German in the first wave; but national identification steadily increased over the period of study. At the end of the observation window, the Turkish students identified themselves in some sense as Germans, which might cautiously be interpreted as an indication of growing identificational integration over time.

National identification and native friends were positively related. For example, in the first wave the share of native friends was one third for students who did not identify themselves as German at all, but over fifty percent for those who did so in some respect and over two thirds for those who completely did so. In other words, the more a student identified himself as German, the more native friends he or she had, and vice versa. This pattern was the same in all three waves.

**Table 2.2:** *Individual Changes in National Identification and Native Friendships over Time*

	Wave 1 to Wave 2		Wave 2 to Wave 3	
	Percent	Number	Percent	Number
<i>National Identification</i>				
No change	42.1	158	41.9	157
Increase	40.3	151	33.3	125
Decrease	17.6	66	24.8	93
Total	100	375	100	375
<i>Native Friends</i>				
No change	40.3	151	40.8	153
Increase	37.3	140	28.3	106
Decrease	22.4	84	30.9	116
Total	100	375	100	375

*Source:* Immigrants' Children in the German and Israeli Educational Systems.

To exploit variation within individuals over time, it is important that there is enough intraindividual change in the key variables across waves. As *Table 2.2* shows, both the degree of national identification and the share of native friends changed for more than half of the students from each wave to the next. Although national identification and native friends were quite stable on the aggregate level, on the individual level the values for each therefore

changed more often than they stayed constant from one year of study to the next. This indicates that there is enough intraindividual variance in both key variables to exploit within-variation. The table further reveals that the level of national identification increased more often than it decreased from Wave 1 to Wave 2 as well as from Wave 2 to Wave 3. The share of native friends also increased from Wave 1 to Wave 2, while the proportion of increases and decreases from Wave 2 to Wave 3 was almost balanced. Overall, increases and decreases were more equally distributed for native friends than for national identification, which explains why the mean values for this variable were more similar over time.

#### **2.4.2 The Relation between Immigrants' National Identification and Native Friendships**

*Table 2.3* contains the results from cross-sectional OLS models predicting national identification at all three points in times. As expected, there was a strong positive association between native friends and national identification in all waves. Depending on the wave, students with only native friends scored between 0.35 and 0.65 scale-points higher on the national identification scale. Ethnic identification was negatively related to national identification, suggesting that national and ethnic identification were opposed for many of the students. Age and host-language proficiency were not related to national identification; for sex this was true for all but one wave. There were no differences in national identification between students in the household survey and those in school survey.

Cross-sectional OLS models predicting the share of native friends, not shown here, reveal basically the same finding, i.e., that national identification had a significant positive effect on native friendships at all three points in time. For both dependent variables, I also conducted additional analyses for the first wave in which I also controlled for level of parental education and ethnic composition of the neighborhood and the school. Importantly, the coefficients of interest barely changed, and with the exception of the share of natives in schools having an effect on the share of native friends, neither of the additional control variables significantly affected the dependent variables.<sup>16</sup> The positive correlation between national identification and native friends therefore was quite stable.

Of course, the results obtained by cross-sectional OLS models do not allow for causal inference. For one thing, the cross-sectional design makes

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<sup>16</sup>I chose not to include these additional control variables in the main models, because I intended to maximize sample size while using the same number of observations in the cross-sectional and in the longitudinal models. Level of parental education and ethnic composition of the neighborhood and the school have considerable numbers of missing values. Moreover, unfortunately, ethnic composition in both contexts was only measured in the first wave.

**Table 2.3:** *Coefficients from Cross-sectional OLS Models Predicting National Identification for All Three Waves (n = 375; Standard Errors in Parentheses)*

	Wave 1	Wave 2	Wave 3
Native friends	.468*** (.129)	.353* (.140)	.649*** (.136)
Ethnic identification	-.482*** (.049)	-.353* (.049)	-.355*** (.046)
Age	-.043 (.062)	-.062 (.071)	-.014 (.068)
Host language proficiency	.012 (.013)	.006 (.014)	.001 (.014)
Girl	.086 (.098)	-.075 (.106)	.218* (.101)
School survey	-.091 (.121)	-.074 (.125)	.040 (.120)

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Source: Immigrants' Children in the German and Israeli Educational Systems.

it impossible to judge the direction of causality. For another, one might reasonably object that the models lack important explanatory variables like perceived discrimination or ethnic family socialization. To account for endogeneity due to time-invariant unobserved heterogeneity and reverse causality, I estimate lagged first-difference (LFD) models, as presented in equations 2.3 and 2.4.<sup>17</sup> The time-invariant control variables are canceled out in the models. The results are in Table 2.4.

In the LFD model predicting national identification, the effect of native friends is considerably smaller than in the cross-sectional OLS models and far from any meaningful level of significance. The same holds true for the opposite effect of national identification on native friends, which is not only insignificant but also close to zero. Neither did changes in the share of native friendships result in changes in national identification at later points in time, nor did changes in national identification lead to changes in the share of native friendships. The LFD models therefore provide no evidence of a reciprocal causal relation between national identification and native friends.

The coefficient for ethnic identification is also not significant in the LFD models. This finding suggests that ethnic identification was not causally related to national identification. Rather, unobserved variables exist that

<sup>17</sup>I performed a robust Hausman test to assess whether a random-effects estimator would also have been appropriate (see Wooldridge 2011). The Hausman test rejects the random-effects model and therefore validates the choice of the first-difference model.



**Table 2.4:** *Coefficients from Lagged First-Difference Models Predicting National Identification and Native Friends ( $n = 375$ ; Robust Standard Errors in Parentheses)*

	Dependent Variable: National Identification	Dependent Variable: Native Friends
Native friends	.126 (.157)	- (-)
National identification	- (-)	-.010 (.017)
Ethnic identification	.100 (.076)	.010 (.021)
Age	.003 (.007)	-.000 (.002)
Educational transition	.103 (.139)	-.010 (.044)

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Source: Immigrants' Children in the German and Israeli Educational Systems.

drove national and ethnic identification in different directions. Educational transitions did not result in changes in national identification and native friends either.

For the interpretation of the results, it bears mention that only those observations that actually varied on the independent variables contributed to the first-difference estimator. If, for instance, the dependent variable is national identification, students with a constant share of native friends did not contribute to the estimate, because no effect could be calculated without within-variation. The same applies to students with a stable level of national identification, of course. The findings therefore are not generalizable to students who did not change on the explanatory variables. But as has been shown in the descriptives, the majority of the students actually *did* change on the variables of interest, thus providing sufficient variance for estimating and interpreting the LFD models (see Table 2.2).

A potential caveat, though, is that the mode of data collection differed for students in the household sample and students in the school sample as well as between Wave 1 and Wave 2 for all students. Since different interview modes can result in different responses (see e.g., Dillman et al. 2009), this mixed modes design might be responsible for changes in the values of the key variables over time. Although effects of interview modes on measurements of national identity appear to be small (see Nandi and Platt 2011), it would therefore have been desirable to control for these effects. I cannot control

for mode effects, however, because time effects and mode effects are fully confounded (see De Leeuw 2005). Controlling for changes in the mode of data collection would also cover changes over time that were not related to the mode of data collection, by which a new kind of bias would be introduced in the models. Instead, I estimated the first-difference models separately for the students in the household survey and the students in the school survey, for which the mode of data collection differed in the first wave, whereas it was the same for all students in the second and third waves. Results, not reported here, did not change the conclusions, which is why I contend that mode effects are not a major issue in the analyses.

## 2.5 Conclusion and Discussion

This chapter did *not* find evidence of reciprocal effects between immigrants' national identification and their friendships with natives. In line with the results of previous research, cross-sectional OLS models showed that host country identification and native friends were positively related. But these models are prone to bias by unobserved heterogeneity and reverse causality. I used lagged first-difference (LFD) models to address both of these methodological challenges and provide a stricter causal test. These LFD models, however, provided *no* support for causal effects in either direction. Neither did changes in national identification affect the share of native friends at later points in time, nor did earlier changes in the share of native friends affect national identification. In combination with the positive association found in the cross-sectional OLS models, this result implies the existence of unobserved time-invariant factors that jointly determined identification with the host country and the share of native friends. This finding contradicts scenarios A, B, and C, but it supports scenario D.

Yet, for two reasons the conclusion that national identification and native friends did not, and do not, affect each other at all should not be made too hastily. First, this chapter provided a rather strict test of causality for a specific group during late adolescence. Reciprocal, or unidirectional, effects might occur at earlier, or later, stages in life, or for other groups. Because the results of this chapter rely on time lags of one year, long-term effects also cannot be ruled out.

These are by no means purely methodological issues. Quite the opposite; We need more theoretical guidance to determine the time span in which and the circumstances under which we expect effects to occur. For example, are changes in the share of native friends assumed to affect national identification relatively immediately or rather after a longer period of time? Unfortunately, existing theories are hardly accurate enough to predict the precise timing of changes. Addressing this question, though, is crucial because, as Vaisey and Miles (2014) recently showed, estimators obtained by LFD models might be

misleading if the lags between panel waves do not match the actual causal lags in the process under study. Since we do not know the causal lags of the processes under study, we need to refine theoretical reasoning as well as to conduct additional empirical studies concerning this issue. I will readdress this particular issue in Chapter 4, where I provide both a further test for Turkish immigrants and an additional test for other immigrant groups.

Second, it is worth repeating that only those students who actually changed on the independent variables contributed to the first-difference estimator. I can therefore not rule out, for instance, that a *stable* share of many, or few, native friends affected immigrants' identification with the host country. Nor can I rule out that a fixed level of national identification continuously affected immigrants' friendships. Thus, we cannot generalize the findings of this chapter to students who did not change on the explanatory variables. From a substantive point of view, as noted by Brüderl and Ludwig (2014: 358), such an "average treatment effect on the treated" (ATT) may often be preferable to an "average treatment effect" (ATE), because the former simply reflects the fact that not all individuals change on the explanatory variables (also see Gangl 2010; Morgan and Winship 2007). But on the other hand, the effects of friends on identification, and of identification on friends, differ from, say, the effects of marrying or becoming unemployed. Marriage and unemployment are *events*; so aiming to estimate their effects in absence of the event itself does indeed not make much sense. Friendships and identification, by contrast, reflect *states* that supposedly affect how people feel and/or behave. As I showed in this chapter, we can gain valuable insights by estimating the consequences of *changes* in these states. Still, since friends and identification supposedly are *continuously* at work—even if they do not change over time—, this tells us only part of the story. In the next chapter, I will add another part of the story by also taking into account the consequences of stable identification and friendships.

While improving upon cross-sectional studies by exploiting panel data, the analysis conducted in this chapter has limitations as well. The measurement of national identification is rather rough and does not allow to distinguish between different dimensions of identification (see, e.g., Sabatier 2008; Verkuyten 2005). On the other hand, even with this imperfect measurement, the cross-sectional OLS models used in this chapter resemble findings of previous research. It was not possible to control for effects that might result from changing the mode of data collection between the waves. But mode effects appear to be small for measurements of national identification (Nandi and Platt 2011), and the conclusions did not differ for different subsamples.

Another potential limitation is that the LFD models account for time-invariant but not for time-variant unobserved heterogeneity. Arguably, the most important potentially time-varying joint determinants of national identification and native friends that are not, or only partly, controlled for in the analyses are host-language proficiency, perceived discrimination, and

ethnic composition of the neighborhood or the school. Importantly, all students used in the analyses were born in Germany and were exposed to the German school system since their first day at school. Research on language acquisition indicates that host-language proficiency is rather stable for the descendants of immigrants after the beginning of adolescence (see Esser 2006), and stable differences in host-language proficiency are controlled for by the LFD models. A similar argument can be made for perceived discrimination: Why should (the perception of) discrimination develop differently over the observed three years of study among students who are all of Turkish origin and who were all born and raised in Germany? By contrast, ethnic composition, for example of the school or the neighborhood, indeed changed for a majority of the students because of the educational transition most of them made. Albeit imperfectly, these potential changes in the ethnic composition of the school or at the workplace were controlled for by including dummy variables indicating educational transitions. More importantly, however, even if there would have been systematic differences in the development of host-language proficiency, perceived discrimination, and ethnic composition, we would expect these variables to have had *similar* effects on national identification and native friends. For example, we would assume high levels of host-language proficiency to simultaneously have increased national identification and native friends, while we would expect perceived discrimination to have decreased both of them. Therefore, a lack of control for these variables should result in a spurious relation between national identification and native friends. However, using the first-difference models, precisely such an association is *not* found in the data. In contrast, unobserved time-varying heterogeneity would only bias the results if the unobserved variable affected national identification and native friends differently, that is increasing one of them while decreasing the other one. Since this appears to be rather unlikely, I contend that unobserved time-varying heterogeneity does not bias the results.

The findings in this chapter imply the existence of time-*invariant* unobserved determinants, however. Of course, the precise nature of these joint determinants cannot be inferred, since they are by definition unobserved and are not at the focus of the present chapter. Yet as discussed in the theoretical section, there are several candidates. For example, previous research has assumed, and indeed found, that perceived discrimination, parental attitudes, and host-language proficiency affect both national identification and native friends in the same direction. As mentioned above, they may do so for the adolescents in the data used in this chapter as well, thus leading to the identified spurious correlation between the strength of immigrants' national identification and the share of their native friends. Turks in Germany are a low-status minority group that not only faces a considerable level of rejection by the native population but also a relatively exclusionary integration policy (see Ersanilli and Saharso 2011). As I will argue in Chapter 4, a fixed level of discrimination might hamper the development of strong national

identification and, at the same time, make it harder for Turkish students to befriend natives. Similarly, Turkish parents with low levels of host country identification and few interethnic contacts might transmit their values and attitudes to their children (see Munniksma et al. 2012), thus affecting both their identification and friendships.

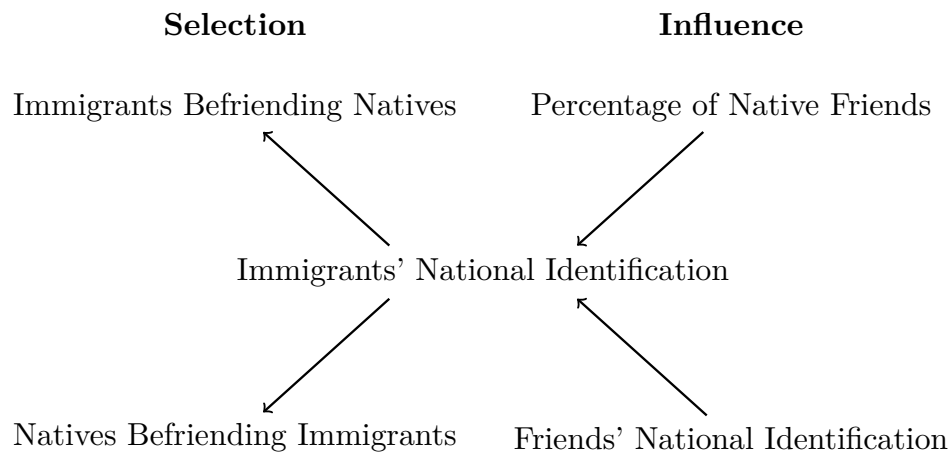
So, where does this leave us? First and foremost, the findings in this chapter suggest that researchers should be very cautious in interpreting the association between national identification and native friendships in a causal manner. To understand what is happening future research must begin—as I will do in the next chapter—by refining the theoretical arguments that are made in favor of causal effects in either direction. Equally important, more detailed empirical studies of potential mechanisms as well as of boundary conditions are required, the latter of which will be the task of Chapter 4. In particular, as I go on to demonstrate in the next chapter, a longitudinal social networks approach offers theoretical and methodological flexibility to disentangle the causal interplay of immigrants' host country identification and their friendships with natives.



## Chapter 3

# Refining Selection and Influence Mechanisms\*

A Longitudinal Social Network Analysis Considering the Perspective of Both Immigrants and Natives



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\* A slightly different version of this chapter, co-authored by Tobias Stark, Andreas Flache, and Anke Munniksma, was published in *Social Networks* (Leszczensky et al. 2016b). For the sake of consistency, I have rewritten this chapter from a first-person perspective and have added cross-references to the other chapters of this book.





## Refining Selection and Influence Mechanisms

### A Longitudinal Social Network Analysis Considering the Perspective of Both Immigrants and Natives

#### Abstract

In the preceding chapter I found no evidence that immigrants' national identification and the share of their native friends affected one another. Other recent longitudinal studies, though, came to different conclusions. In this chapter, I review the very few existing longitudinal studies and propose a longitudinal social networks approach that allows a more direct test of refined selection and influence mechanisms. With respect to selection mechanisms, I extend earlier studies by focusing on friendship choices made not only by immigrants but also by natives. With respect to influence mechanisms, I distinguish between the influence of native friends per se and the possibility that immigrants may generally adjust their own identification towards that of their friends, irrespective of their friends' ethnic backgrounds. I test these different selection and influence mechanisms using two waves of network panel data that were collected in 18 Dutch school classes. I apply stochastic actor-oriented models to statistically separate selection from influence mechanisms. The results indicate that immigrants' national identification did not affect their preferences for having native friends. Natives, however, preferred to befriend immigrants with stronger rather than weaker national identification. I found no evidence of any kind of social influence process.

### 3.1 Introduction

In the preceding chapter, I introduced different theoretical scenarios that may lead to the observed association between immigrants' friendships with natives and their identification with the host country. *Selection* mechanisms suggest that immigrants' national identification may affect their friendship choices because similarity on salient attitudes is an important predictor of friendship choices (McPherson et al. 2001; Stark and Flache 2012), and identity captures salient attitudes (Deaux and Martin 2003; Syed and Juan 2012). *Influence* mechanisms, in contrast, suggest that having many native friends may increase immigrants' national identification (e.g., Agirdag et al. 2011; Phinney et al. 2006; Sabatier 2008).

We need longitudinal data to assess whether native friends affect immigrants' national identification, and whether immigrants' national identification in turn affects their friendships with natives. But longitudinal studies still are scarce, and the few available of them have yielded mixed findings. Whereas I did *not* find evidence of either selection or influence processes in Chapter 2, the results of Munniksma et al. (2015) suggest a bidirectional causal relation between friends and identification. The findings of Rutland et al. (2012), by contrast, indicate that the causal arrow might run from identification to friends, but not the other way around.

Aside the use of different methodological approaches and data sources, a major reason for the inconsistent findings of prior longitudinal studies might be that none of these studies exploited the benefits of a *longitudinal social network approach*. In this chapter, I demonstrate that such an approach bears both theoretical and methodological advantages. A longitudinal social network approach might advance our understanding of potential selection and influence mechanisms underlying the association between immigrants' host country identification and their friendships in three ways.

First, prior studies focus on friendship choices made by immigrants but neglect the *perspective of natives*. As I noted in Chapter 2, however, natives' preferences for interethnic contact are also crucial for the formation of friendships between immigrants and natives, for they shape immigrants' opportunities to befriend natives. Immigrants' national identification might not only affect their own preferences for interethnic friendships but also how similar natives perceive them to be and, therefore, how likely they are to befriend them (e.g., Verkuyten and Thijs 2010a; Verkuyten et al. 2014).

Second, whereas most studies assume that native friends influence immigrants' national identification, existing studies contain no information about *friends' actual level of identification* (for an exception see Syed and Juan 2012). Native friends may increase immigrants' identification *per se*, but immigrants may also generally adjust their own identification towards that of their friends, *irrespective* of their friends' ethnic backgrounds.

Third, it is questionable whether earlier longitudinal studies that rely on ego-centric network data adequately met the methodological challenges of *separating selection from influence mechanisms*. For instance, my own study in the preceding chapter provided a rather strict causal test by estimating the effects of changes in identification on friendships, and vice versa. Yet, while the lagged first-difference (LFD) model that I used accounted for both time-invariant unobserved heterogeneity and reverse causality, the conclusions based upon this model only applied to those individuals who actually did change on the explanatory variables. The LFD model did not take into account, however, that *stable* levels of identification and friendships may also affect one another. Cross-lagged panel models, like those used by Munniksma et al. (2015) and Rutland et al. (2012), do so. But as I explained in the last chapter, such models still have limited value for causal inference, as they *neither* account for time-invariant unobserved heterogeneity *nor* for reverse causality. Longitudinal social network data, by contrast, offer a promising alternative way of addressing questions of causal ordering. For one thing, stochastic actor-oriented models for network and behavior dynamics (SAOM, Snijders et al. 2010; Steglich et al. 2010) provide the statistical means to separate selection from influence mechanisms while allowing to control for competing friendship mechanisms such as relational or proximity mechanisms. For another, in contrast to the LFD model I used in the last chapter, SAOM take into account both change in *and* stability of friendship and identification, thus not posing limitations on the applicability of its findings.

In the current chapter, I therefore extend prior research by analyzing the relation between interethnic friendships and national identification of adolescent immigrants using longitudinal social network data. Specifically, I first refine theoretical mechanisms. Then I investigate whether immigrants' identification with the host country determines friendship choices of both immigrants and natives while simultaneously examining if, and how, friendships in turn affect immigrants' national identification.

In what follows, I first discuss different selection and influence mechanisms, and formulate four related hypotheses. (3.2). Subsequently, I present the data and methods (3.3), as well as the results (3.4). I close the chapter by discussing the meaning of its findings and their implications for future research (3.5).

## 3.2 Theory

As we saw in Chapter 2, previous research has put forward different theoretical arguments to explain the association between immigrants' host country identification and their friendships with natives. We can assign these arguments to either selection or influence mechanisms. *Selection* mechanisms stress that people choose their friends based on individual preferences such as

homophily, the widespread desire to befriend people who are similar to oneself (McPherson et al. 2001; Wimmer and Lewis 2010). *Influence* mechanisms, by contrast, emphasize that connected people affect one another, for instance by adjusting their attitudes and becoming more similar to each other over time (e.g., Friedkin and Johnsen 2011). Next, I refine selection (3.2.1) and influence mechanisms (3.2.2) by deriving from them four related hypotheses and discussing existing evidence.

### 3.2.1 Refining Selection Mechanisms

From a dynamic intergroup perspective (Brown and Zagefka 2011), it is essential to account for both groups involved in the potential formation of cross-group friendships. Earlier research on friends and identification, however, neglected the perspective of natives. In what follows, I discuss the role of immigrants' national identification in the *friendship choices of immigrants* as well as in the *friendship choices of natives*.<sup>1</sup>

#### Immigrants' National Identification and Their Friendship Choices

Similarity on salient dimensions such as ethnicity, sex, or values is a key predictor of friendship choices (McPherson et al. 2001; Leszczensky and Pink 2015; Stark and Flache 2012; Smith et al. 2014). This is because interactions with similar others can generally be expected to provide a better basis for mutual understanding, to have lower transaction costs, and to be more rewarding (see Leszczensky and Pink 2015; Völker et al. 2008: 327). Thus, it is not surprising that adolescent immigrants tend to show stronger preferences for coethnic rather than for interethnic friends (e.g., Brüß 2005; Leman et al. 2013; Phinney et al. 1997; Verkuyten and Kinket 2000). This ingroup bias, however, might be less pronounced if immigrants strongly identify with the host country.

Collective identities, such as national identification, are meaningful systems of beliefs related to the fundamental norms and values that are shared by a group of people (see Deaux and Martin 2003; McFarland and Pals 2005: 105; Verkuyten and Martinović 2012). Immigrants identifying strongly with the host country may be more interested in having native friends since they feel more similar to them than do immigrants who do not identify with the host country. This view is in line with the common ingroup identity model (Gaertner and Dovidio 2000), which states that a superordinate group

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<sup>1</sup>The *theoretical* discussion of this chapter focuses on assortative mechanisms, i.e., mechanisms referring to friendship choices based on individual attributes like identity. Of course, I acknowledge the importance of alternative tie-generating mechanisms such as proximity or relational mechanisms (see Rivera et al. 2010; Wimmer and Lewis 2010). In fact, as I explain below, it is a strength of the stochastic actor-oriented model I use in my analyses that it allows to control for these competing mechanisms (Snijders et al. 2010; Steglich et al. 2010).

identity, like a shared national identity, reduces biases at the subgroup level. Accordingly, the first selection hypothesis, already proposed in Chapter 2, is:

**Selection-Hypothesis 1** *Immigrants who strongly identify with the host country show a stronger tendency to befriend natives than do immigrants with weak host country identification.*

While ethnic ingroup bias is well established (e.g., Leszczensky and Pink 2015; Smith et al. 2014), few studies have investigated, let alone demonstrated, effects of group identifications on immigrants' friendships. In a study by Syed and Juan (2012) friendship pairs reported similar levels of ethnic identity, which led the authors to suggest that ethnic identity homophily, i.e., a preference for friends with a similar ethnic identity, plays a role in friendship choices. But it might also be the case that similarity in ethnic identity resulted from friends becoming more similar in their identities over time. Because the study was cross-sectional, no definitive answers can be given about the direction of causality.

Other cross-sectional studies showed that immigrants who feel more attached to the host country show less ingroup bias (Nier et al. 2001; Pfeifer et al. 2007). Schaafsma et al. (2010) further argue that immigrants with a strong host country identification may feel less threatened by the majority group and therefore find friendships with majority group members to be less difficult than do immigrants who weakly identify with the host country. Empirically, however, they do not find any relation between immigrants' attachment to the host country and the amount of interethnic contact. The longitudinal studies by Rutland et al. (2012) and Munniksmä et al. (2015), by contrast, provide some evidence that national identification might indeed affect friendship choices of older immigrant children. In particular, Rutland et al. (2012) showed that children who adopted a national as well as an ethnic identity had a higher percentage of interethnic friends. However, using a more rigorous statistical method, but also a different sample in a different country, the longitudinal analysis I conducted in Chapter 2 found that changes in immigrants' national identification did *not* lead to changes in the ethnic composition of immigrants' friendship networks.

### **Immigrants' National Identification and Natives' Friendship Choices**

As I wrote in Chapter 2, the preferences of one group's members determine the opportunity of the other group's members to engage in interethnic contact (also see Martinović 2013). Thus, how much natives are willing to engage in interethnic contact is just as important for explaining ethnic homogeneity in friendship networks as are the preferences of immigrants.

Ingroup bias has repeatedly been found to be even stronger among native majority group children than among minority group children and adolescents

(e.g., Brüß 2005; Kinket and Verkuyten 1999; Leman et al. 2013; Tropp and Pettigrew 2005; Verkuyten 2007). Sarafidou et al. (2013) further report that a substantial number of native preadolescents express prejudices towards ethnic minority children, which goes hand in hand with a low interest in interethnic relations.

How similar natives perceive immigrants to be may depend in part on immigrants' national identification. Identification is related to fundamental norms and values that become evident in repeated encounters. Natives might therefore perceive immigrants who strongly identify with the host country as being more similar since these immigrants are likely to be more acculturated. Thus, the second selection hypothesis is:

**Selection-Hypothesis 2** *Natives show a stronger tendency to befriend immigrants with a strong rather than a weak host country identification.*

There is experimental evidence that natives' evaluation of immigrants partly depends on identity-related characteristics of these immigrants. For instance, both Verkuyten et al. (2014) and Zagefka et al. (2012) found that native children held more positive views of immigrant peers when they perceived these peers to value the host country's culture to the extent that they wanted to adopt it (also see Van Oudenhoven et al. 1998). Following the common ingroup identity model (Gaertner and Dovidio 2000), native children might perceive immigrant peers who value the host country's culture as being more similar to themselves and therefore more easily include these immigrants in the national category and evaluate them more positively (see Verkuyten et al. 2014). Results from Verkuyten and Thijs (2010a) support this view, showing that native majority group members evaluated immigrants who identified with both their country of origin and the host country more positively than they evaluated those who only identified with their country of origin. But so far no research outside of the laboratory has tested natives' preferences for friends who identify with the host country.

### 3.2.2 Refining Influence Mechanisms

Most studies examine the influence of interethnic friendships on immigrants' national identification in terms of the *proportion of native friends* among immigrants' friends (e.g., Agirdag et al. 2011; Sabatier 2008; Schulz and Leszczensky 2016, also see Chapter 2). But as I now discuss, while there is reason to expect native friends to foster immigrants national identification irrespective of their own identification levels, there is also reason to expect that immigrants generally *adjust* their national identification towards their friends' identifications, *regardless of whether these friends are natives*.

### **Why Having Native Friends Might Foster Immigrants' Host Country Identification**

Studies focusing on how native friends influence immigrants' national identification typically assume that native friends *generally* support and therefore enhance immigrants' host country identification (see Noels et al. 2010; Sabatier 2008; Schulz and Leszczensky 2016; Syed and Juan 2012; Yip 2005). In contrast, friends of the same ethnic background are assumed to support ethnic rather than national identification. These assumptions follow from identity theory, which states that identities are reinforced if one's personal network is composed of numerous strong ties to others with whom the identity is enacted (Deaux and Martin 2003; Stryker 1980; Walker and Lynn 2013). Agirdag et al. (2011) further suggest that friendships between immigrants and natives increase the likelihood of re-categorizing group boundaries in terms of a shared superordinate national identity that includes not only natives but also immigrants. The first influence hypothesis therefore reads:

**Influence-Hypothesis 1** *Having more native friends increases immigrants' identification with the host country.*

Although many studies assume that native friends enhance immigrants' national identification, there is surprisingly little empirical evidence in favor of this hypothesis. For example, interethnic friendships were positively related to ethnic minority students' host country identification in the cross-sectional study by Agirdag et al. (2011). But as discussed above, it cannot be ruled out that this association between friends and identity is caused by selection rather than by influence mechanisms. Longitudinal studies that explicitly address the issue of reverse causality have produced mixed findings. Using different statistical approaches, neither the first chapter of this dissertation nor Rutland et al. (2012) found evidence that native friends increase immigrants' national identification, whereas the results of Munniksma et al. (2015) indicate that this is the case.

### **Why Immigrants Might Adjust towards the Identification of Their Friends**

Rather than simply developing a stronger identification with the host country through native friends, immigrants' host country identification may be influenced by their *friends' actual levels of host country identification*. This may happen because identities can only be sustained if they are valued and accepted by significant others (see Deaux and Martin 2003; Klein et al. 2007; McFarland and Pals 2005; Noels et al. 2010). Friendship networks provide a means to express identity, and they affect how much social approval an individual gains for a particular identification. The more members of a network share and endorse a certain identity, the more approval can someone

expect for sharing that identity as well. Immigrants' national identification might thus increase if, and only if, their friends share and support national identification. In contrast, having many native friends who themselves do not identify with the host country is unlikely to increase an immigrant's host country identification. Quite the opposite: since such a friendship network would not approve of strong host country identification, it may provide weaker motivation to identify with the host country. Thus, the second influence hypothesis is:

**Influence-Hypothesis 2** *Immigrants adjust their own host country identification towards the host country identification of their friends, irrespective of whether these friends are natives.*

Hardly any studies empirically investigate identity levels of friendship pairs or networks. A notable exception is the study by Syed and Juan (2012) that separately assessed the ethnic identities of both partners in friendships pairs. Their key finding is that friends indeed reported similar levels of ethnic identity. But unfortunately, as discussed above, the cross-sectional design of the study does not allow to conclude whether friends' similarity in ethnic identity was due to ongoing shared interactions about ethnicity (i.e., influence) or to a preference for like-minded friends (i.e., selection).

### 3.2.3 Bringing Selection and Influence Mechanisms Together

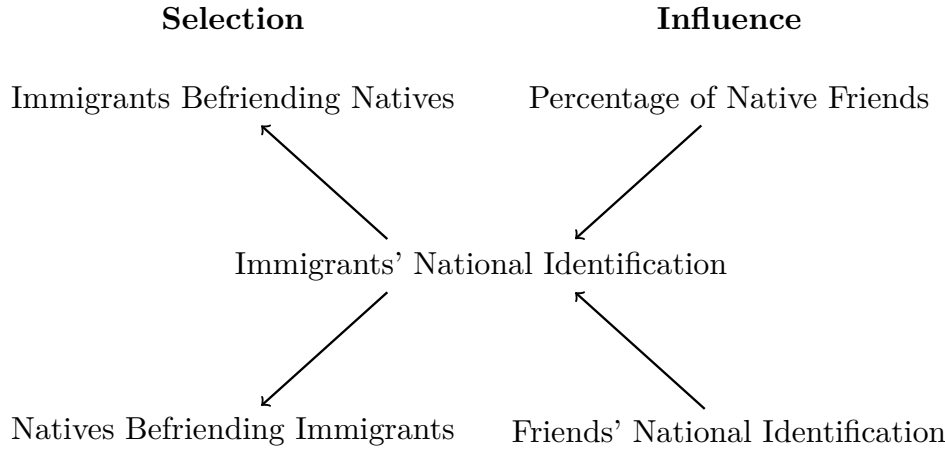
In this theoretical section, I spelled out two different selection and influence mechanisms. *Figure 3.1* visualizes the respective hypotheses. Theoretically, the existence of each pathway by no means rules out the existence of the other three ones. For example, immigrants' national identification may at the same time shape their own friendship preferences *and* those of natives. Similarly, immigrants' national identification might be influenced by native friends as well as by a more general trend of adjustment towards the identification of their friends. Finding out which of the four pathways operate empirically—and which do not—therefore requires us to examine them jointly.

## 3.3 Data and Methods

### 3.3.1 Data

To empirically test the four hypotheses I use longitudinal network data from the secondary school module of *The Arnhem School Study* (TASS, see Stark 2011; Stark and Flache 2012; Stark et al. 2013). The secondary school module of TASS is a network panel study among 1,350 students of 61 classrooms in 12 secondary schools in Arnhem, a mid-sized city in the Netherlands. Since all schools were located within the same city, TASS is not a random sample;



**Figure 3.1:** *Refined Selection and Influence Mechanisms*

but almost all schools in Arnhem participated, so schools did not self-select into the sample. Overall, almost 90% of all first-year secondary school classes participated in the first wave, and about 90% of the 1,350 students in these classrooms participated in each wave. These high response rates enabled me to use social network analysis, which requires near-complete data for accurate representation of networks (Huisman and Steglich 2008).

The secondary school module started at the beginning of the first year of secondary education. After the transition from primary school, class composition changed completely for all students, so many new social relations had to be formed. Since students in the Netherlands spend the entire school day with their classmates, school class networks arguably constitute a crucial part of their social lives.

The secondary school module consists of four waves, of which I use the final two waves, in which national identification was measured. My wave 1 was collected at the end of the first school year in June 2009, wave 2 one year later in May 2010. The students were between 13 and 14 years old at the beginning of the first wave. In both waves all students from a classroom simultaneously completed an online questionnaire on separate computers in school. A teacher read instructions to the students and supervised completion of the questionnaire. Before the initial wave parents received a letter informing them about the study and offering them the opportunity to refuse their children's participation. The students were informed that their answers would be treated confidentially and that they were free to end their participation.

Overall, 1,070 students participated in the data collection. 45 of these students had to be excluded from the analysis since they did not indicate their ethnic background. For a variety of reasons, I could not make use of all 61 school classes of the secondary school module. First, after the

first year at middle school in the Netherlands, based on their performance students can still change tracks when they transition to the second year. As a consequence, the composition of 26 classes after wave 1 changed so dramatically that social network analysis could not be applied. Second, some classes did not participate in both waves and thus had to be excluded as well. Finally, I dropped two classes in which there were no children with at least one parent born abroad.

The final sample consists of 381 students who are nested in 18 school classes. On average, there are 27.2 students per class. 26.3% of the students used in the analysis have a migration background in the sense that at least one parent was born abroad.<sup>2</sup> Boys make up 52% of the final sample.

### 3.3.2 Variables

***Immigrants and natives*** To distinguish immigrants from natives, I used information on the countries of birth of the students as well as on those of their mothers and fathers. According to the official definition of Statistics Netherlands I considered students as being *native* Dutch if both parents were born in the Netherlands.<sup>3</sup> Conversely, students were coded as *immigrants* if they themselves or at least one of their parents were born abroad. Since immigrants make up only about a quarter of my sample I did not distinguish between different ethnic groups or countries of origin.<sup>4</sup>

***Friendship networks and friendships between immigrants and natives*** In both waves students were asked “Who of your classmates are your best friends?” The students received a list with the names of all their classmates from which they could nominate their best friends. Students’ nominations were not restricted, so in principle they could have nominated all classmates. This is an advantage given that unlimited friendship nomination tends to be more valid than restricted choices, especially with respect to positive relations such as friendship (Cillessen 2009; Gommans and Cillessen 2015; Terry 2000). On average, students nominated 4.2 friends in wave 1 and 3.8 friends in wave 2.

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<sup>2</sup>The share of immigrant students per class is significantly lower in the 18 classes used in the analyses than in the 61 classes of the total sample (39,4%;  $t(61) = 2.2, p < 0.05$ ).

<sup>3</sup>See <http://www.cbs.nl/en-GB/menu/methoden/begrippen/default.htm?Languageswitch=on&ConceptID=88>, accessed on December 14, 2015, and Vermeij et al. (2009). I also ran the model with a less restrictive definition in which we coded students as natives if at least *one* parent was born in the Netherlands. The results were the same.

<sup>4</sup>In addition, the sample is ethnically diverse, with more than 50 ethnic groups and no dominant ethnic group. Of the sample used in the analysis, a quarter of the immigrant students is of Turkish origin, followed by Morocco (8%), Surinam (6%), and Afghanistan (5%). The majority of immigrant students therefore are of non-Western origin.

**National identification** National identification was measured by the question “Do you feel Dutch?” Answers rank on a five-point scale from 1 “absolutely not” to 5 “very strongly”. Since Dutch natives form the majority group in the Netherlands, I assume that if immigrants indicated that they felt Dutch they expressed identification with the host country. This measurement has been used in previous research (Munniksma et al. 2015, also see Chapter 2). In addition, there is evidence that even single-item measures may adequately capture social identification (Postmes et al. 2013).

**Sex** Sex was coded 1 for boys and 0 for girls.

### 3.3.3 Analytical Strategy

I use stochastic actor-oriented models (SAOM) developed by Snijders and colleagues (Snijders 2001, 2005; Snijders et al. 2007, 2010). Whereas SAOM have been applied to explain why friends are similar to another regarding a variety of behaviors and opinions (see Veenstra et al. 2013), they have not previously been used to analyze the interplay of immigrants’ national identification and native friends.

SAOM are agent-based simulation models that are uniquely suited to address the four hypotheses because they allow to control for structural effects of the network itself while separating selection from influence mechanisms by modeling the co-evolution of networks and individual characteristics (Steglich et al. 2010; Veenstra and Steglich 2012; Veenstra et al. 2013). Controlling for these different mechanisms is important because friendship choices are affected not only by individual preferences (i.e., selection processes) but also by proximity and relational mechanisms (Rivera et al. 2010). For instance, friendships tend to be reciprocated, and they tend to be transitive (Snijders 2013; Wimmer and Lewis 2010). Ignoring such relational mechanisms can lead to overestimation of selection processes (see Goodreau et al. 2009; Mouw and Entwisle 2006). Similarly, selection processes can only be inferred if proximity and influence mechanisms are controlled for. The core of the model is the so-called *objective function*, which can be viewed as a representation of actors’ preferences (Snijders et al. 2010: 47). Mathematical specifications of SAOM can be found in Snijders (2001, 2005); Snijders et al. (2010) provide a more intuitive introduction.

Yet another crucial advantage of SAOM is that they are based on a continuous time parameter, thus taking into account the creation and termination of friendship ties as well as their stability (Snijders et al. 2010; Ripley et al. 2015). This sets SAOM apart from the first-difference approach I relied on in Chapter 2, which only allowed modeling the effects of actual changes in either national identification or the share of native friends. Substantively this means that findings based on SAOM are more generalizable than findings based on

first-difference approaches, for they capture changes in the identification and friends as well as stability.

I estimated the model using **RSiena** (Ripley et al. 2015). Missing values for individual attributes and friendship ties were treated as non-informative in the estimation process (Huisman and Steglich 2008). As detailed below, I express the selection hypotheses as three-way interactions, for example by stating that if the potential initiator of a friendship choice is an immigrant and the potential friend to be chosen is a native, then the likelihood that such a tie will be initiated or retained increases to the extent to which the immigrant identifies with being Dutch. To ease calculations of predicted values, I did not center covariates.

To gain enough statistical power for the estimation of three-way interactions I analyzed the 18 classroom networks jointly using Siena’s multi-group option instead of performing a meta-analysis of the results of separate models for each of the 18 school classes (Ripley et al. 2015, also see Cheadle and Schwadel 2012).<sup>5</sup>

### 3.3.4 Model Specification

I test my two selection and two influence hypotheses jointly in one model. Doing so allows to separate the different selection and influence mechanisms while controlling for competing structural and proximity mechanisms.

***Selection part*** The selection part models the process underlying the evolution of the friendship network, which is assumed to be driven by actors’ interdependent choices. That is, in so-called micro-steps, randomly chosen individual actors continuously and repeatedly decide about befriending each other or terminating existing friendship ties. Rules about this network behavior can be implemented in the so-called objective function, which actors’ are assumed to optimize, thus reflecting actors’ preferences for friends with certain characteristics (Snijders et al. 2010).

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<sup>5</sup>The multi-group analysis uses the same model specification for all school classes, making the crucial assumption that all parameters are the same for all classes (see Ripley et al. 2015). This assumption can be formally tested with the score-type test for time-heterogeneity, developed and implemented in **RSiena** by Lospinoso and colleagues (see Lospinoso et al. 2011; Lospinoso 2013; also see Schweinberger 2007; Ripley et al. 2015). The joint score-type test indicated heterogeneity for 12 of the 18 classes. The usual strategy to account for heterogeneity would have been to add dummy variables for each class and interactions with these dummies for heterogeneous effects. Unfortunately, this strategy was not feasible in the present study because the models already contained various interaction effects so that adding even more interaction effects would not only have complicated interpretation but led to convergence problems. To inspect whether heterogeneity affects my conclusions, I conducted separate multi-group analyses for the 12 classes that showed heterogeneity and for the 6 homogeneous classes. The substantive conclusions did not differ between both subsamples, which led me to tentatively conclude that heterogeneity, though present, does not pose a major threat to my analyses.

In the selection part of my model I control for three *structural effects* that capture well-known strong empirical regularities of friendship networks. Controlling for these structural effects is recommended to avoid a bias in the estimation of other effects (Snijders 2001; Snijders et al. 2010; Snijders 2013; Steglich et al. 2010). First, I included an *outdegree* effect that reflects how many friends the students nominate on average. Second, I included a *reciprocity* effect that indicates to what degree students reciprocate friendship choices. Third, I included a *transitive triplets* effect that controls for the tendency of students to become friends with the friends of their friends. I also included ego, alter, and same-*sex* effects to account for a preference for same-sex friends that has consistently been found in research on school friendship networks (e.g., Block and Grund 2014; Cheadle and Schwadel 2012; Leszczensky and Pink 2015; Stark and Flache 2012; Vermeij et al. 2009; Smith et al. 2014).

I express my two selection hypotheses via three-way interaction effects. With respect to *friendship choices of immigrants*, I test whether immigrants with a stronger national identification have stronger preferences for native friends than do immigrants with a weaker national identification. In other words, if in a pair of network members the potential initiator of a friendship choice is an immigrant and the potential friend to be chosen is a native, then the likelihood that such a tie will be initiated or retained should increase if immigrants identify more strongly with the host country. This is expressed by the following three-way interaction representing the tendency of immigrants to choose natives as friends depending on their own national identification:

$$\text{Immigrant}_{\text{Ego}} * \text{Native}_{\text{Alter}} * \text{National Identification}_{\text{Ego}}$$

I further included all constitutive terms of this three-way interaction since omitting constitutive terms would result in biased estimates (Brambor et al. 2006). That is, I added the main effects of ego being an immigrant, alter being a native, and ego’s national identification on the one hand and the three two-way-interactions between these three effects on the other.

With respect to *friendship choices of natives*, I could test whether natives’ preference for befriending immigrants depends on immigrants’ national identification in a similar manner, i.e., by adding the respective three-way interaction. However, this would require including main effects for ego being a native and alter being an immigrant—and these effects would be perfectly collinear with the  $\text{Immigrant}_{\text{Ego}}$  and the  $\text{Native}_{\text{Alter}}$  main effects of my first

selection hypothesis.<sup>6</sup> Instead, I therefore test my second selection hypotheses by adding the following three-way interaction to the model:

$$\text{Immigrant}_{\text{Ego}} * \text{Native}_{\text{Alter}} * \text{National Identification}_{\text{Alter}}$$

This three-way interaction requires including the main effects of ego being an immigrant and alter being a native, which are already in the model. In addition, I included the main effect of alter's national identification as well as the two-way interactions between alter's identification with ego being an immigrant and alter being a native, respectively. In such a model, somewhat counterintuitively, the effect of *alter's national identification* constitutes a direct test of my second selection hypothesis. This is because due to the addition of the interaction effects, this effect is conditional on ego *not* being an immigrant and alter *not* being a native. In other words, the  $\text{National Identification}_{\text{Alter}}$  effect expresses the tendency of natives to befriend immigrants dependent on how strongly these immigrants identify with the host country.

***Influence part*** The influence part models the development of national identification. Like in the selection part of the model, it is assumed that actors control their own identification. This does not necessarily mean that actors make deliberate choices about their identification, but rather that their identification changes in response to either their own individual characteristics or to characteristics of their friends or the broader network environment (Snijders et al. 2010: 54).

In the influence part, I first included a *linear tendency* effect, which expresses the general tendency to have high values on the national identification scale. The same effect squared controls for underdispersion (regression to the mean) or overdispersion (polarization) of the identification, which might bias the estimation of influence effects (Snijders et al. 2010).

My first influence hypothesis is that having (more) *native friends* increases immigrants' national identification. I test this hypothesis by interacting the

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<sup>6</sup>The respective three-way interaction directly referring to the perspective of natives would be:

$$\text{Native}_{\text{Ego}} * \text{Immigrant}_{\text{Alter}} * \text{National Identification}_{\text{Alter}}$$

As written above, adding this interaction would require me to also control for, among others, the main effects  $\text{Native}_{\text{Ego}}$  and  $\text{Immigrant}_{\text{Alter}}$ , which would simply mirror the effects  $\text{Immigrant}_{\text{Ego}}$  and  $\text{Native}_{\text{Alter}}$ , respectively.

effect of the proportion of native friends with the main effect of ego being an immigrant (Ripley et al. 2015):<sup>7</sup>

$$\text{Immigrant}_{\text{Ego}} * \text{AvAltNative}$$

Again, I included all constitutive terms, i.e., the main effect of ego being an immigrant and the AvAltNative effect.

My second influence hypotheses is that immigrants generally adjust their own national identification towards the *national identification of their friends*. This is tested by the total similarity effect, which represents a preference for adopting identifications similar to those of one’s friends (Ripley et al. 2015). Since I am interested in this effect for immigrants only, I included an interaction term between the central actor being an immigrant and the total national identification similarity effect:

$$\text{Immigrant}_{\text{Ego}} * \text{totSim}_{\text{National Identification}}$$

I also added the main effect of friends’ total similarity to the model.<sup>8</sup>

## 3.4 Results

### 3.4.1 Descriptive Statistics

Table 3.1 provides information on the 18 classes as well as on network characteristics. The ethnic composition varied between school classes; the percentage of immigrants ranged from 6.7% to 60% per school class, with an average of 26%. As can be seen, there are some network related differences between classes, expressed, for instance, by a varying amount of missing observations and differences in density. The mean Jaccard index of all classroom friendship networks is 0.32, indicating that the degree of change in friendships is sufficient for the parameters to be estimated (Snijders et al. 2010). The Jaccard index differs between classes but is in a reasonable range for all classes.<sup>9</sup>

<sup>7</sup>An alternative specification would have been to use the total number rather than the proportion of native friends. I prefer the relative measurement because the total number of nominated friends differed between students, so that using an absolute measure of native friends might be misleading. For example, one would expect three native friends to be more important for an immigrant’s national identification if no other (non-native) friends were nominated, as compared to a situation in which three non-native friends were also nominated.

<sup>8</sup>I did not include the national identification similarity effect in the *selection* part because I do not have hypotheses referring to identity similarity affecting friendship choices. Still, I also estimated my model with a national identification similarity effect in the selection part. Including the effect did not change the results or conclusions, and the effect itself was virtually zero.

<sup>9</sup>The Jaccard index is defined by  $\frac{N_{11}}{N_{11} + N_{01} + N_{10}}$ , where  $N_{11}$  is the number of ties that exist in both waves,  $N_{01}$  is the number of newly initiated ties, and  $N_{10}$  is the number of dissolved ties (Snijders et al. 2010: 49).

**Table 3.1:** *Description of the Classes, Network Characteristics, and National Identification ( $n = 381$ )*

Class	Students	Missing		Average Outdegree		Jaccard Index	Share of Immigrants	National Identification	
		Wave 1	Wave 2	Wave 1	Wave 2			Wave 1	Wave 2
1	30	16.7%	0.0%	4.1	3.9	0.35	6.7%	3.00	4.00
2	28	0.4%	0.4%	5.4	4.9	0.44	18.5%	2.80	3.20
3	29	0.0%	0.0%	4.8	4.7	0.36	20.7%	2.00	2.17
4	30	0.3%	0.3%	5.8	4.6	0.40	10.0%	4.33	3.67
5	26	0.0%	0.0%	4.2	5.2	0.29	23.1%	5.00	3.00
6	28	0.7%	0.4%	3.3	2.4	0.22	23.1%	2.66	3.33
7	28	0.4%	17.9%	4.6	3.0	0.25	55.6%	3.50	2.00
8	28	0.0%	17.9%	5.1	3.5	0.35	55.6%	2.64	2.42
9	28	10.7%	14.3%	5.4	5.4	0.31	42.3%	1.57	2.30
10	26	0.8%	0.8%	4.8	3.3	0.39	32.0%	4.00	3.29
11	35	11.4%	22.0%	3.6	4.0	0.44	12.9%	3.25	2.71
12	31	0.7%	0.3%	4.3	4.8	0.33	12.9%	4.25	4.67
13	31	12.9%	21.6%	5.2	3.5	0.37	12.9%	4.67	4.50
14	31	0.7%	0.0%	3.9	4.3	0.34	12.9%	3.67	3.33
15	31	0.0%	0.0%	3.1	2.9	0.38	32.3%	3.00	3.50
16	19	15.8%	21.1%	3.8	2.9	0.32	38.9%	2.29	2.20
17	31	0.7%	22.6%	3.8	3.9	0.23	46.4%	2.69	2.55
18	27	0.4%	0.7%	5.0	4.9	0.38	14.8%	3.00	2.55
All	27.2	3.8%	7.4%	4.2	3.8	0.32	26.3%	3.07	2.91

Source: The Arnhem School Study.



**Table 3.2:** Mean Values of Immigrants' and Natives' National Identification and Percentage of Native Friends of Immigrants and Natives Over Time ( $n = 381$ , Standard Deviation in Parentheses)

	Wave 1	Wave 2
<i>National Identification</i>		
Immigrants	2.95 (1.41)	2.84 (1.35)
Natives	4.33 (0.86)	4.23 (0.84)
<i>Native Friends</i>		
Immigrants	0.54 (0.36)	0.49 (0.39)
Natives	0.78 (0.29)	0.78 (0.28)

Source: The Arnhem School Study.

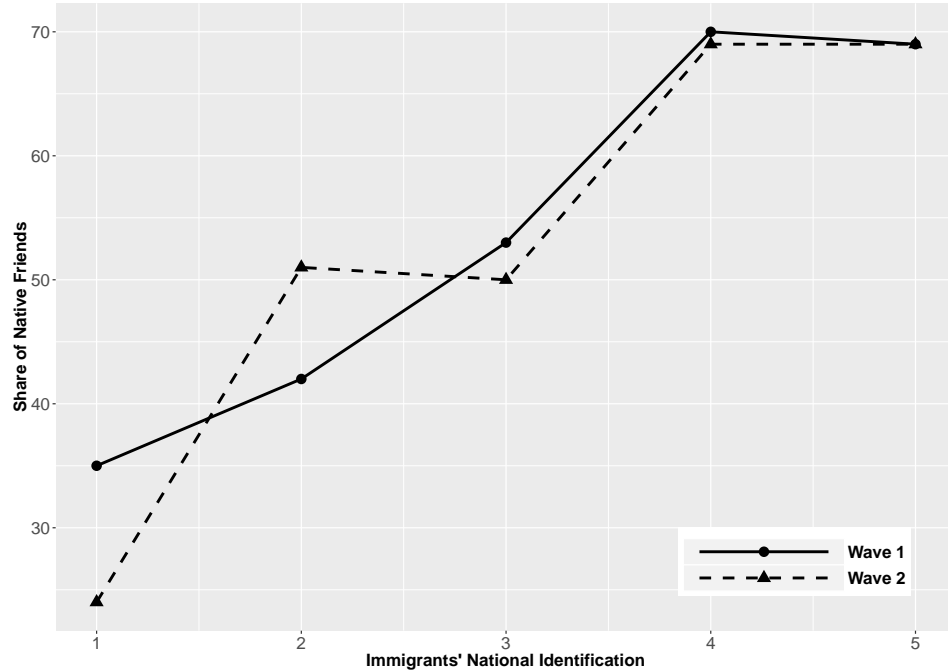
Table 3.2 shows mean values of national identification and the proportion of native friends for both immigrants and natives over time. In both waves, immigrants scored on average slightly below the mid-point of the national identification scale, indicating that they somewhat identified with the host country. Unsurprisingly, natives on average scored much higher on the national identification scale; the vast majority of them identified themselves as Dutch. The group difference between immigrants and natives was significant at both points in time ( $t(381) = 11.4, p < 0.001$  and  $t(381) = 11.8, p < 0.001$ , respectively). For immigrants, there was no significant difference in national identification between waves ( $t(93) = 0.8, p = 0.21$ ), whereas natives identified slightly less with the host country in Wave 2 ( $t(288) = 1.8, p < 0.05$ ). Thus, on the *aggregate-level* national identification in both groups remained rather stable during the period of study.

More important for analyzing network and national identification dynamics, though, is *individual-level* variation in the key variables across waves. National identification from Wave 1 to Wave 2 changed for 58% of the immigrant and for 51% of the native students; so change was somewhat more frequent than stability in both groups. For those who change, the proportion of increases and decreases in national identification was approximately equal, which led to the stability on the aggregate level. In both extent and direction, these fluctuations are remarkably similar to those found in Chapter 2. Moreover, they indicate that national identification did change in a substantial number of the students, justifying the analysis of identification dynamics.

Among immigrants, national identification correlated positively with the share of native friends in both waves ( $r = .39, p < .001$  and  $r = .38, p < .001$  respectively).<sup>10</sup> The relation between the percentage of native friends and

<sup>10</sup>For natives, by contrast, there was no positive correlation between national identification and native friends ( $r = .02, p = .67$  and  $r = -.04, p = .44$ , respectively)

**Figure 3.2:** *The Relation between Immigrants' National Identification and the Share of Native Friends over Time (n = 93)*



immigrants' national identification is illustrated in *Figure 3.2*. The pattern was basically the same in both waves. On average, only roughly a quarter up to a third of the friends of immigrant students with a very weak national identification were natives, but the proportion of native friends steadily increased with each step on the identification scale. For example, about half of the friends of immigrants at the mid-point of the national identification scale were natives, and this proportion was about two thirds among those who scored highest on the national identification scale. This pattern suggests that having native friends was positively related to immigrants' national identification, as found in earlier studies (e.g., Agirdag et al. 2011; Phinney et al. 2006), including those of the preceding chapter.

### 3.4.2 Analyzing the Relation between Immigrants' National Identification and their Friends

*Table 3.3* displays the results of the stochastic actor-oriented model. The convergence of the estimation algorithm was excellent, indicated by the fact that all t-ratios for convergence were less than 0.1 in absolute value (Ripley et al. 2015; Snijders et al. 2010).

Results for the structural effects are in line with findings of earlier studies on adolescent friendship networks (e.g., Block and Grund 2014; Cheadle and Schwadel 2012; Leszczensky and Pink 2015; Snijders et al. 2010; Snijders

**Table 3.3:** *Model of Friendship Selection from the Perspective of Natives while Controlling for Influence mechanisms: Estimates and Standard Errors of a Multi-group Analysis (18 Classes, 381 Students)*

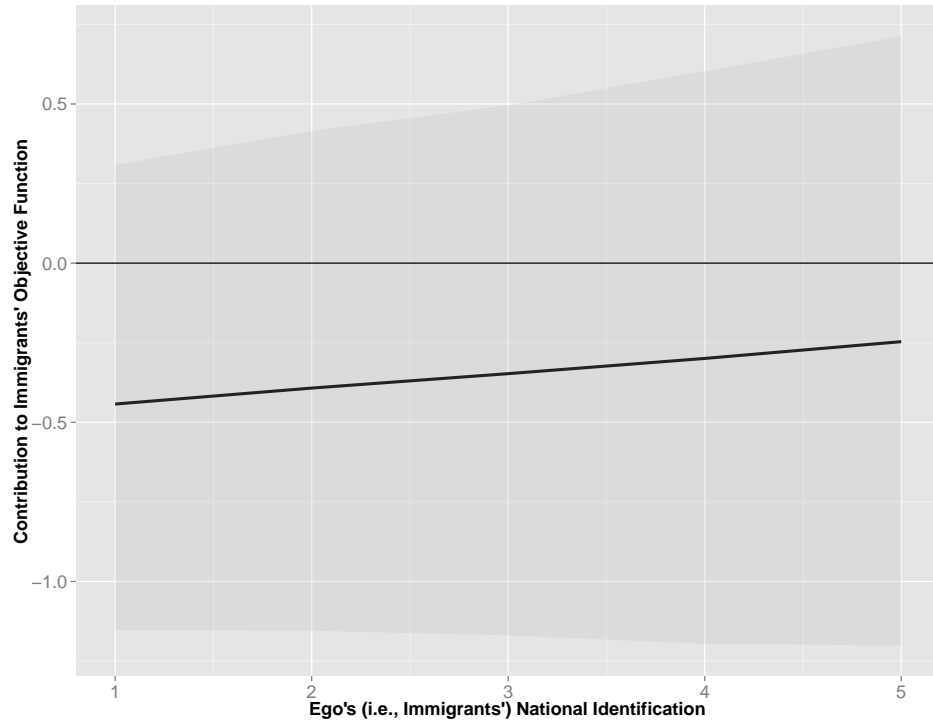
Effect	par.	(s.e.)
<b>Network dynamics</b>		
<i>Structural effects</i>		
Outdegree	-2.12***	(0.18)
Reciprocity	1.39***	(0.08)
Transitive triplets	0.16***	(0.01)
<i>Control variables</i>		
Sex ego	0.15 <sup>†</sup>	(0.08)
Sex alter	-0.36***	(0.08)
Same sex	0.76***	(0.07)
<i>The Role of National identification</i>		
Immigrant ego	-0.09	(0.19)
Native alter	0.00	(0.09)
National identification ego	-0.05	(0.22)
National identification alter	0.49**	(0.16)
Immigrant ego x native alter	-0.03	(0.13)
Immigrant ego x national identification ego	-0.06	(0.21)
Native alter x national identification ego	0.12	(0.14)
Immigrant ego x national identification alter	-0.39*	(0.18)
Native alter x national identification alter	-0.38***	(0.11)
Immigrant ego x native alter x national identification ego	0.05	(0.15)
Immigrant ego x native alter x national identification alter	0.36*	(0.16)
<b>National identification dynamics</b>		
<i>Tendency effects</i>		
National identification linear shape	0.59 <sup>†</sup>	(0.35)
National identification quadratic shape	0.06	(0.05)
<i>The role of native friends</i>		
Immigrant	-0.66 <sup>†</sup>	(0.40)
Native friends	-0.21	(0.23)
Immigrant x native friends	0.52	(0.33)
<i>The role of similarity in national identification</i>		
National identification total similarity	0.67*	(0.27)
Immigrant x national identification total similarity	-1.04*	(0.43)

<sup>†</sup>  $p < 0.1$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ;

Convergence  $t$  ratios all  $< 0.1$ . Covariates are not centered.

Source: The Arnhem School Study.

**Figure 3.3:** *Selection from the Perspective of Immigrants. (The Dark Gray Area Shows a 95 Percent Confidence Interval.)*

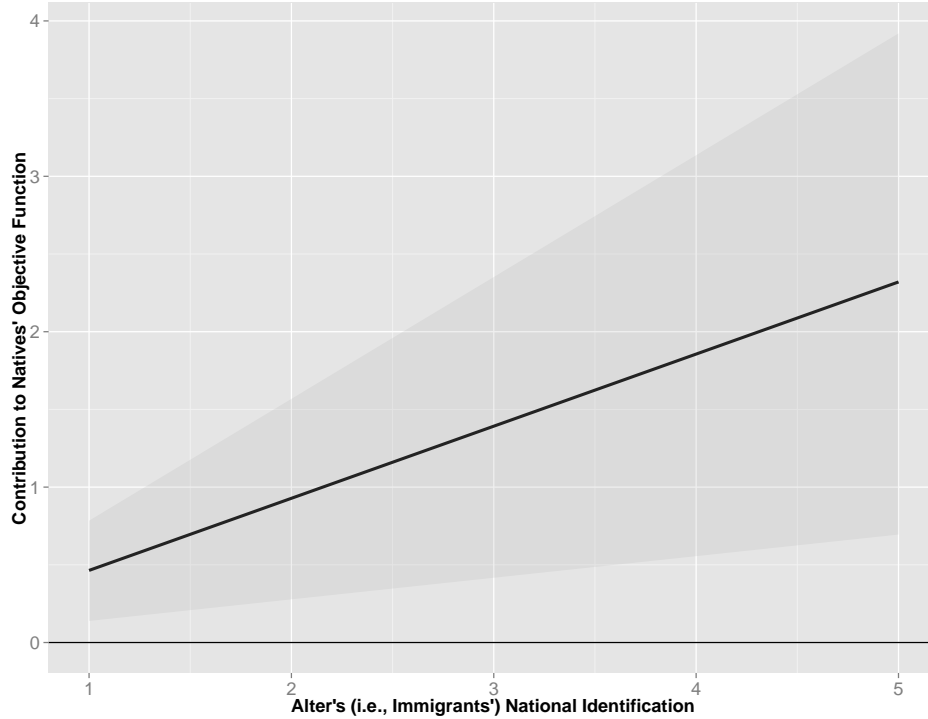


2013). The negative outdegree effect reflects a low density of the friendship network, indicating that friends were chosen rather selectively. The positive reciprocity effect reflects that a friendship nomination was more likely to be initiated or retained when it was reciprocated. The positive transitive triplets effect indicates a tendency for friends of friends to become friends as well. As expected, I also find evidence of sex homophily.

The results do not support my first selection hypothesis that immigrants' own national identification increased their preference for befriending natives. To test this hypothesis, we have to consider the three-way interaction  $\text{Immigrant}_{\text{Ego}} * \text{Native}_{\text{Alter}} * \text{National Identification}_{\text{Ego}}$  along with the effects of ego being an immigrant, alter being a native, and ego's national identification. We also have to consider the three constituting two-way interactions (see Snijders et al. 2010: 52). This is best done graphically.

Figure 3.3 depicts the resulting joint contribution of these effects to immigrants' objective function for different values of national identification. To assess uncertainty, following King et al. (2000), I simulated estimators by 1,000 draws from the multivariate normal distribution, which enabled me to calculate 95 percent confidence intervals. The upwards-sloped line suggests that immigrants with higher levels of national identification had a slightly higher preference to befriend natives. However, confidence intervals indicate

**Figure 3.4:** *Selection from the Perspective of Natives. (The Dark Gray Area Shows a 95 Percent Confidence Interval.)*



that this increase was not significant. Although the mean of the slope was positive (.195), the lower bound of the 95 percent confidence interval was below zero (−.248). This leads to a rejection of the first selection hypothesis; immigrants' national identification did *not* seem to play a substantive role for immigrants' friendship selections.

In contrast, my results are in line with the second selection hypothesis, which stated that natives prefer to befriend immigrants' with strong rather than weak national identification. This hypothesis is directly tested via the National Identification<sub>Alter</sub> effect in *Table 3.3*. This is because this effect is not the unconditional main effect but, because of the included interaction effects, reflects the effect of alter's national identification if, and only if, ego is a native and alter is an immigrant. The effect is negative and significant.

I also plotted the contribution of this effect to native students objective function. *Figure 3.4* confirms that natives indeed preferred to befriend immigrants with higher rather than lower levels of national identification. The confidence intervals were above zero for all values of the identification scale. The mean of the slope was positive (1.87), as was the lower bound of the 95 percent confidence interval (.060).

To the best of my knowledge, it is currently not possible to calculate average marginal effects for SAOM, which makes it difficult to quantify the

effect I found. This can be done, however, for so-called microsteps, which represent the multiple decisions each actor makes within the simulation process underlying SAOM. For instance, immigrants with very low or very strong national identification contributed respectively 0.5 and 2.2 to the objective function of natives (see Figure 2). This means that, all else being equal, a native within the simulations was about 5.5 times more likely to select an immigrant with very strong rather than an immigrant with very low national identification. This is because an increase in the objective function of 1.7 (from 0.5 to 2.2) can be translated into an increase in the odds within the microstep to choose an alter with strong rather than weak national identification by  $\exp(1.7) = 5.47$ . Although one has to keep in mind that this quantification refers to the microsteps within the simulation and not to actors' real-world decisions, immigrants' national identification therefore seemed to have a non-negligible impact on natives' friendship choices. This is in line with the second selection hypothesis, i.e., natives preferred to befriend immigrants with stronger national identification.

Turning to social influence, there is *no* evidence for the first influence hypothesis, which argued that native friends increase immigrants' national identification. The interaction between ego being an immigrant and the proportion of native friends is positive but not significant. If I add to this positive effect the negative effect of having native friends, the effect remains positive but marginal in size. My first influence hypothesis is therefore rejected, i.e., having more native friends did *not* seem to strengthen immigrants' host country identification.

Neither do the results support my second influence hypothesis that immigrants adjust their national identification to those of their friends. The total similarity effect is positive and significant, indicating that *natives'* national identification actually preferred to have identification levels similar to those of their friends. The negative and significant effect of the interaction between total similarity and ego being an immigrant in combination with the negative main effect of being an immigrant, however, shows that immigrants did not prefer to be similar to their friends' identification. In contrast, the negative interaction effect means that in terms of host country identification, immigrants actually were rather dissimilar to their friends.

### 3.5 Conclusion and Discussion

By formulating and testing four hypotheses regarding the causal interplay of immigrants' national identification and their friendships, this chapter extends previous research in three ways. First, whereas the majority of past studies are static in nature, I followed a dynamic approach, analyzing the co-evolution of friendship networks and immigrants' national identification over time. Second, whereas most existing studies solely focus on immigrants,

this chapter took an intergroup perspective by focusing on friendship choices of both immigrants and natives. Third, I refined both selection and influence mechanisms and tested four related hypotheses. For this purpose, I followed a social network approach. In particular, I applied a relatively new statistical model that is uniquely suited to assessing the relation between immigrants' host country identification and their friendships by separating selection from influence mechanisms, but that so far has not been used in this particular area of research.

With respect to *selection* mechanisms, I found no support for the contention that *immigrants* who strongly identified with the host country had stronger preferences for native friends than did immigrants with weaker national identification. This contradicts theoretical expectations as well as causal interpretations of earlier cross-sectional studies. As I will further elaborate in Chapter 5, one explanation for this finding may be that my analysis focused on school classes with a considerable native majority (74%) and relatively few immigrants (26%). As a result, irrespective of their own national identification, the (relatively) few immigrants in these schools simply had to befriend natives, because there were not enough immigrants, let alone co-ethnics, around to sustain non-native friendship networks. As already pointed out by Blau (1974: 621), people may generally prefer ingroup friends to outgroup friends, but they may also "prefer associating with outgroup members to not associating with anybody and remaining isolated." Immigrants' national identification in my sample may thus not have affected their tendency to befriend natives because they had to do so anyways.

My results suggest, however, that immigrants' national identification mattered in friendship choices of *natives*, who preferred to befriend immigrants with a strong rather than a weak national identification. This finding confirms experimental research (Verkuyten and Thijs 2010a; Verkuyten et al. 2014), indicating that results from laboratory experiments are meaningful in real-world interactions as well. This finding is particularly important given that most prior studies neglected the perspective of natives. In line with the reasoning above, native students had a large number of classmates in their ingroup to choose from. They therefore could have been pickier in selecting outgroup friends.

Why exactly natives preferred to befriend immigrants with a strong rather than a weak national identification cannot be answered by this chapter. Presumably, identification with the host country serves as a signal for similarity in attitudes, norms, or cultural values and natives might prefer friends who are similar (McPherson et al. 2001). However, other aspects related to identity might at least partly confound this effect. For instance, it may be the case that immigrants with strong national identification are also more proficient in the host language, which could make them more attractive to natives as friends. There currently is no way to account for such unobserved heterogeneity within stochastic actor-oriented models (SAOM).

However, by explicitly modeling actors' decisions, SAOM arguably much more closely resemble alleged theoretical mechanisms than, say, first-difference models do (see Leszczensky and Pink 2015: 21f.). In addition, SAOM control for dynamic endogenous network effects such as reciprocity and transitive triplets, which regression-based approaches do not take into account. While SAOM by no means promise complete protection against omitted variables, I therefore contend that they do not perform too badly in terms of unobserved heterogeneity either. In combination with their superior approach separating selection from influence mechanisms, at least for the time being SAOM are our most valuable tool for analyzing complicated relations like the one between immigrants' national identification and their friendships.

With respect to *influence* mechanisms, this chapter suggests that friends did *not* affect the development of immigrants' national identification in the expected ways. Neither did immigrants prefer to be similar to the national identification of their friends, nor did having many native friends increase their national identification. These findings contradict causal interpretations of previous cross-sectional studies (e.g., Agirdag et al. 2011; Sabatier 2008).

One reason no support was found for my influence hypotheses might be that the observed period of time was relatively short and there were only two points of observation, making it difficult to identify patterns underlying identity development. Perhaps more importantly, as we recently argued elsewhere (Schulz and Leszczensky 2016) and as I will examine in the next chapter, native friends may only influence national identification of immigrants belonging to groups for which ethnic boundaries are blurred rather than bright. I thus may not have detected evidence of influence because the majority of immigrants in my sample was of non-Western origin and the ethnic boundaries between these groups and Dutch natives may be too clear-cut to allow influence processes (also see Alba 2005). To illustrate this idea, one would not expect males with many female friends to start identifying themselves as females as well. As suggested by Schulz and Leszczensky (2016), a similar argument may apply, admittedly to a somewhat lesser degree, to ethnic groups. If immigrants look physically different from natives, have to cope with discrimination, and feel alienated from the host country, they may view themselves as non-natives, irrespective of how many native friends they have. Another possibility could be that Dutch natives who do not have immigrant friends may care more about ethnicity than do Dutch natives who do have immigrant friends. Such Dutch native friends may not foster the development of their immigrant friends' national identification since they do not find this aspect particularly important.

I found, though, that immigrant students tended to be *dissimilar* to their friends' mean level of national identification. In my view, though, this does not necessarily imply that immigrants preferred to befriend peers with dissimilar identity levels. Recall that immigrants in my study attended classrooms with large majorities of native classmates. As a consequence,



many friends of immigrant students actually were natives. Since natives' national identification was, on average, higher than that of immigrants, the negative similarity effect arguably reflects the fact that immigrants did not adjust their own national identification towards those of their (native) friends.

Taken together, the results of this chapter are in line with the findings in Chapter 2, which, while neglecting the perspective of natives, also found no evidence of either selection from the perspective of immigrants or influence with respect to the proportion of native friends. At the same time, the results of this chapter go beyond those of the preceding one, for they apply not only to adolescents' who actually changed on the independent variables but also to those who did not. This is because in contrast to the LFD model, SAOM consider both changes and stability of friendships and identification.

My results further improve upon the study of Munniksmma et al. (2015), which suggested a bidirectional causal relation between national identification and native friends but did not account for selection and influence mechanisms. Applying a statistical method that allowed examination of selection and influence processes, I found that immigrants' host country identification did not seem to matter for their friendship choices. My results differ from those of Rutland et al. (2012), who find evidence of influence but not of selection processes. However, their study focuses on children between the ages of 5 and 11, who might be more prone to influence mechanisms, while at the same time being less conscious about choosing their friends. Also, compared to Rutland et al. (2012), I focused on a relatively new contact situation, since many new friendships are formed at the beginning of middle school.

While my study extends prior research in important ways, some limitations have to be mentioned. On a general note, my sample does not allow to make generalizations. For one thing, I rely on two waves spanning the age of 13 to 14, so different effects earlier or later in life cannot be ruled out. Moreover, as is true for most other network studies, my data are not based on a random sample, given that all participants are from one particular city. It also would have been desirable to control for students' socioeconomic status, which the data did not allow. Yet, the comprehensive study by Smith et al. (2014) shows that adding socioeconomic status does not change conclusions about the importance of other tie-generating mechanisms.

As mentioned before, my measurement of national identification could be improved. Although some earlier studies used similar items (Munniksmma et al. 2015, also see Chapter 2), capturing a complex construct like identification with one item is not desirable (but see Postmes et al. 2013; Reysen et al. 2013). Still, even using this imperfect measure of host country identification, I found clear evidence of the well-established association between the strength of immigrants' national identification and the share of their native friends. What is more, while my measurement of national identification is improvable, it also bears mentioning that my measurement of friendship networks is arguably more adequate than those of studies asking immigrants to report how many

of their friends are natives. Whereas the accuracy of these indications is questionable, in my study all friends self-reported ethnicity, thus ruling out biased information.

A final potential methodological limitation are the assumptions underlying my statistical approach. Most notably, using the multi-group option of Siena assumes that parameters are the same across all classrooms. On the one hand, this assumption is not met for all classes in the data, as shown by the score-type test. On the other hand, I re-estimated the models for classes for which I found evidence of heterogeneity and compared the results to models for classes in which there was no evidence of heterogeneity. The substantive conclusions do not change, which is why I believe that heterogeneity does not pose a major challenge to my conclusions. Still, future studies may deal with heterogeneity between classes either by relying on larger friendship networks that provide enough information to estimate three-way interaction effects—as I will do in Chapter 5—or by estimating random coefficient multilevel Siena models, which have been developed recently but not yet been applied in published research (see Ripley et al. 2015).

I offer the following suggestions for future research, several of which I myself will pick up in Chapter 5 of this book. First, echoing the conclusion in Chapter 2, future research should primarily be longitudinal, so as to further examine the mechanisms underlying the relation between friendships and identification. In particular, researchers may test the post-hoc explanations I offered for the hypotheses that I had to reject, even if these hypotheses are quite prominent in the literature and theoretically founded. Especially for analyzing identity development, both more points of observation and a longer time frame would also be desirable.

Second, while I have demonstrated the benefits of adopting a social networks approach, my study only marks a first step in this direction. Picking up the work of Walker and Lynn (2013), further studies might focus on structural features of friendship networks, such as the embeddedness of friends sharing a particular identification. For example, the pressure to conform towards the identification of friends might be stronger for immigrants who are part of a clique in which most members share a particular identity than for immigrants whose friends are not, or are only loosely connected to each other.

Third, complementing my study of classes with moderate shares of immigrants, future research may investigate the relation between national identification and friendships in classes with higher shares of immigrants in which immigrants face a more complex opportunity structure. In fact, I will readdress this issue in Chapter 5, where I develop and test a related argument about how relative group size affects identification-based friendship choices.

Last but not least, as indicated above, recent research has suggested that native friends might only influence immigrants' national identification

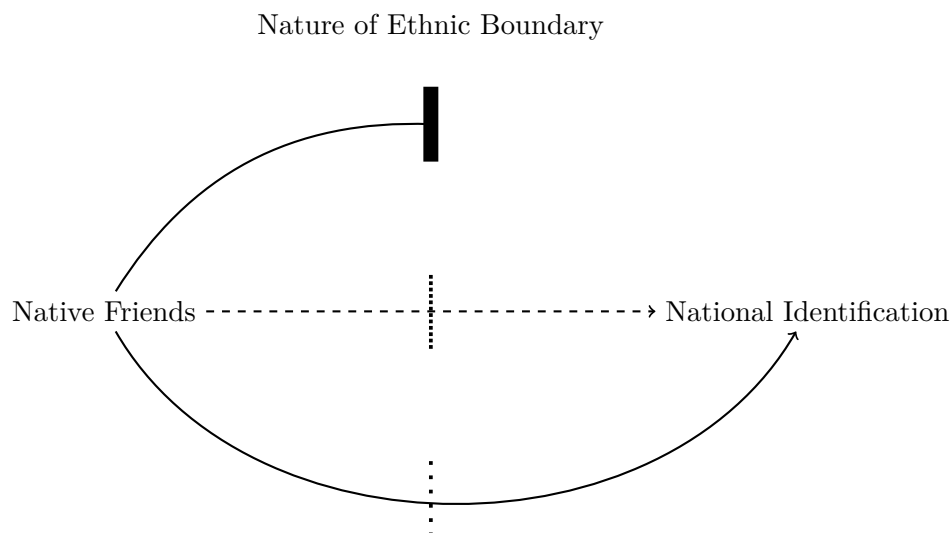
if ethnic boundaries are blurred rather than bright (Schulz and Leszczensky 2016). Analyzing immigrant groups jointly, as I did in this chapter, therefore may overshadow heterogeneous influence effects. As I suggest in the next chapter, the effect of having native friends may indeed depend on social conditions that are only fulfilled for some immigrant groups, thus resulting in group-specific social influence hypotheses.



## Chapter 4

# What If Friends Are Not Enough?\*

How Ethnic Boundaries May Block the Impact of Native Friends on Young Immigrants' National Identification



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\* I developed the theoretical ideas in this chapter together with Benjamin Schulz. Applied cross-sectionally, they have been published in *International Migration Review* (Schulz and Leszczensky 2016). A slightly different version of this chapter is currently under review by a peer-reviewed journal.



## **What If Friends Are Not Enough?**

### **How Ethnic Boundaries May Block the Impact of Native Friends on Young Immigrants' National Identification**

#### **Abstract**

Many cross-sectional studies, including the analyses in the preceding chapters, find high shares of native friends to be positively related to immigrant youths' identification with the host country. But as we have seen in the last chapter, even though many studies assume that native friends foster the development of immigrants' host country identification, supportive longitudinal evidence for this claim is surprisingly scarce. By examining various immigrant groups together, most prior studies imply that native friends similarly affect members of all immigrant groups. In this chapter, by contrast, I suggest that whether or not native friends influence immigrants' national identification depends on the nature of ethnic boundaries, which notably differs between immigrant groups. More precisely, I hypothesize that native friends do not increase immigrants' national identification if boundaries between immigrants and natives are bright, but that they may do so if ethnic boundaries are blurred. Using the example of Germany, I exploit two three-wave panel data sets to longitudinally test respective group-specific hypotheses for Turkish and for ethnic German students. Comparing results obtained by different panel model specifications, in line with my theoretical expectations I find that increases in the share of native friends did not affect Turkish youths' host country identification. As also hypothesized, however, there is some evidence that friends did affect national identification of ethnic Germans. This result, I propose, helps us to better understand the findings in the previous chapters.

## 4.1 Introduction

As reviewed in the last chapter, many cross-sectional studies assume native friends to foster immigrants' identification with the host country (e.g., Agirdag et al. 2011; Phinney et al. 2006; Sabatier 2008). But do native friends actually affect young immigrants' identification with the host country? As we also saw in the preceding chapters, *longitudinal* evidence for this hypothesis is, at best, mixed. In fact, the only longitudinal study that found evidence in favor of friends influencing immigrants' national identification is the one by Munniksmä et al. (2015). In contrast, in Chapter 2 I found that changes in the share of native friends did *not* result in changes in Turkish immigrants' identification with the host country. I reached a similar conclusion in Chapter 3, showing that immigrants' national identification was not influenced by how many native friends they had. In line with what I have found so far, Rutland et al. (2012) also found that friends did not influence ethnic identifications of ethnic minority children. In sum, contrary to presumptions by cross-sectional studies, there thus is surprisingly little evidence that native friends influence young immigrants' identification with the host country.

In this chapter, though, I argue that it still would be too early to conclude that friends just do not matter for the development of immigrants' host country identification. For one thing, the existing longitudinal studies are few in number, and they differ vastly in the methods they use and in the data sources they rely on. More importantly, these studies typically examine various immigrant groups together, thus implicitly assuming that native friends affect national identification of various immigrant groups in the same way. But as we have recently suggested elsewhere (Schulz and Leszczensky 2016), the impact of native friends on immigrants' host country identification may in fact depend on the nature of *ethnic boundaries*, which considerably varies between immigrant groups in specific receiving contexts (also see Diehl et al. 2016). If ethnic boundaries are bright, actors clearly belong to a particular ethnic group; if ethnic boundaries are blurred, by contrast, group membership and identity are more ambiguous and, thus, easier to change (Alba 2005).

Following this distinction, we argued that while native friends may increase immigrants' national identification in a context of blurred ethnic boundaries, they may fail to do so if ethnic boundaries are bright (Schulz and Leszczensky 2016). Analyzing different immigrant groups in Germany, our cross-sectional results were consistent with this hypothesis, finding positive effects of having native friends on the national identification of ethnic Germans but not on that of immigrants of Turkish origin, for whom ethnic boundaries are bright. Unfortunately, the cross-sectional design of our study did not allow us to draw firm causal conclusions. Still, our finding is notable since longitudinal studies that did *not* find effects of native friends on immigrants' national identification relied either on a completely Turkish sample (as I



did in Chapter 2) or on samples with a non-Western majority (as I did in Chapter 3, also see Rutland et al. 2012). These studies thus have investigated potential influences of native friends for immigrant groups for whom these influences may be rather unlikely in the first place.

Taking earlier research one step further, in this chapter I *longitudinally examine whether ethnic boundaries moderate the influence of native friends on national identification*. Exploiting two three-wave German panel data sets to test group-specific hypotheses for Turks and ethnic Germans, I provide both a further test and an extension of Chapter 2 as well as of the cross-sectional study by Schulz and Leszczensky (2016). For this purpose, I rely on both on the lagged first-difference model from Chapter 2 and on recent advantages in panel data analysis (Allison 2014; Williams et al. 2015).

Studying different immigrant groups in Germany is particularly fruitful because Germany is a good example of the incorporation of immigrants of different origins who arrived under different migration regimes (see, e.g., Luthra 2013). Immigrants from *Turkey* answered the call of German labor recruitment in the 1960s and 1970s. They were initially regarded as “guest workers” who would only temporarily work in Germany and then return to their countries of origin. Even nowadays, ethnic boundaries between descendants Turkish immigrants and the native German population are relatively bright (Alba 2005; Luthra 2013; Witte 2014). In contrast, *ethnic Germans* came from Eastern Europe after the fall of the Iron Curtain, with privileged legal opportunities to migrate to Germany, such as receiving German citizenship upon arrival (Dietz 2000, 2006). Compared to immigrants stemming from Turkey, ethnic boundaries between German majority members and ethnic German immigrant minority members are much more blurred (see Verkuyten and Martinović 2012: 86f.; Witte 2014). Comparing these groups thus provides the opportunity to investigate group-specific hypotheses about how the nature of ethnic boundaries shapes the impact of native friends on young immigrants’ national identification.

The remainder of this chapter is structured as follows. I first recall why native friends may, in principle, increase immigrants’ national identification; then I discuss why this effect may only manifests itself in a context of blurred ethnic boundaries between immigrants and natives and derive respective hypotheses for Turks and ethnic Germans in Germany (4.2). After introducing the data, I present various panel model specifications that allow to empirically test these hypotheses (4.3), and I discuss the evidence obtained by these different models (4.4). The chapter closes with a discussion in which I link the findings to those of the preceding chapters (4.5).

## 4.2 Theory

### 4.2.1 Why Native Friends May, in Principle, Increase Immigrants' National Identification

Many studies suggest that native friends increase immigrants' host country identification (e.g., Agirdag et al. 2011; Hochman 2010; Phinney et al. 2006; Sabatier 2008). As I outlined in the previous chapters, this hypothesis is grounded in at least two major theoretical approaches, which I now briefly recapitulate.

*Identity theory* states that strong ties to others who share a particular identity reinforce the salience of this identity (Stryker 1980; Walker and Lynn 2013). Friends not only provide means to express identities and define sets of proper behaviors (Alba 1990; Deaux and Martin 2003; Syed and Juan 2012), but they also determine how much social approval an actor receives for an identity claim (Klein et al. 2007: 32f.; Noels et al. 2010: 741ff.). A friendship network that does not support one's identity therefore creates pressure to adjust to the identity of the majority (Deaux and Martin 2003; McFarland and Pals 2005). Most studies—including the one I conducted in Chapter 2—assume that native friends generally possess, and thus support, national identification, whereas co-ethnic friends, on average, possess and support ethnic identification (Gonzales-Backen 2013: 100f.; Hochman 2010; Lubbers et al. 2007; Noels et al. 2010; Sabatier 2008; Syed and Juan 2012: 1506; Yip 2005). Higher shares of native friends therefore are expected to result in increasing national identification.

The *common ingroup identity model* argues that persons with cross-group friendships have a higher propensity to re-categorize their social identities so that they include both groups under a common identity (Gaertner and Dovidio 2000). Picking up this argument, some authors suggest that having native friends increases the likelihood of immigrants to re-categorize group boundaries in terms of a shared superordinate national identity that includes both natives and immigrants (Agirdag et al. 2011; Munniksma et al. 2015; Rutland et al. 2012). Such a re-categorization of group boundaries is especially likely if ethnic and national identities can harmoniously be combined in form of a dual, or bicultural, identity, such as German-Turkish (Verkuyten and Martinović 2012). While the presence of dual identity does not necessarily imply strong national identification (Simon and Ruhs 2008; Verkuyten and Martinović 2012: 87f.), the possibility of keeping their ethnic heritage and identity should increase immigrants' willingness to additionally identify with the host country.

#### 4.2.2 Why the Effect of Native Friends May Depend on the Nature of Ethnic Boundaries

While the theories discussed above are quite general, we recently suggested that the nature of *ethnic boundaries* between immigrant groups and the native population determines to what extent native friends actually influence immigrants' national identification (Schulz and Leszczensky 2016). An ethnic boundary generally marks a distinction between ethnic groups that is related to behavioral scripts for how to relate to members of these different groups (Lamont and Molnár 2002; Wimmer 2008). If ethnic boundaries are bright, actors clearly belong to a particular ethnic group and, in general, act in accordance with respective in-group norms and expectations (Alba 2005). If ethnic boundaries are blurred, by contrast, actors have the opportunity to more freely choose the group they identify with. In a nutshell, our argument is that native friends may increase national identification if boundaries between immigrants and natives are blurred, but that they may fall short of doing so in a context of bright boundaries between immigrants and natives.

We proposed two social conditions that indicate the nature of ethnic boundaries: perceived discrimination and the (in-)compatibility of ethnic and national identities (Schulz and Leszczensky 2016; also see Verkuyten and Martinović 2014; Witte 2014).<sup>1</sup> If an immigrant group perceives notable amounts of *discrimination* by the native majority group, having native friends may not be enough to affect identity considerations among members of this ethnic group. The level of perceived discrimination varies between immigrant groups, and discrimination generally hampers the development of host country identification (Badea et al. 2011; De Vroome et al. 2014; Jasinskaja-Lahti et al. 2009; Maxwell 2009; Verkuyten and Yildiz 2007). Identifying with the host country becomes further complicated if immigrants perceive group barriers to be non-permeable (Skrobanek 2009; Verkuyten and Reijerse 2008; Verkuyten and Martinović 2012). This perceived permeability of ethnic boundaries also varies between immigrant groups because of differences in visible traits (Deaux et al. 2006; Ehrkamp 2006; Khanna 2004; Witte 2015) as well as social-cultural distance as expressed by language, religion, or cultural traditions (Alba 2005; Hainmueller and Hopkins 2014; Martinović and Verkuyten 2012). For immigrant groups who perceive discrimination and impermeable ethnic boundaries, having native friends may thus simply not suffice to counterbalance the strong negative effect of overall societal lack of acceptance of claimed host country identification.

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<sup>1</sup>While this chapter focuses on native friends influencing immigrants' identification, note that discrimination and incompatibility of identities may also restrict immigrants' opportunities to befriend natives in the first place. In this sense, these two social conditions thus may be examples of the joint unobserved determinants of friends and identification that I discussed in Chapter 2. I will come back to this issue in the discussion of this chapter.

Native friends may further fall short of influencing immigrants' national identification if there is a perceived *incompatibility of ethnic and national identities*. How closely both identities fit depends on the real, or perceived, social-cultural distance between the groups and on related norms and values (see Martinović and Verkuyten 2012). Some immigrant communities exert pressure to maintain one's own ethnic culture rather than assimilating into that of the host country (Martinović and Verkuyten 2012; Verkuyten and Martinović 2012: 97f.). In particular, many immigrant parents, who were often not born in the host country, identify strongly with their ethnic group and transmit their ethnic identity and related norms and values to their children (see Hughes et al. 2006 for a review, also see Alba 1990; Kwak 2003; Munniksma et al. 2012). If members of an immigrant group regard ethnic and national identities as incompatible, and if ethnic identification predominates within that group, co-ethnics will not support national identification. Potentially positive effects of having native friends on national identification may thus be overlaid for members of such groups.

To sum up, immigrant groups vary with respect to two important social conditions that indicate the nature of boundaries between immigrants and natives. Taken together, perceived discrimination and an incompatibility of ethnic and national identities are an expression of bright ethnic boundaries. As illustrated in *Figure 4.1*, bright ethnic boundaries may prevent native friends from affecting immigrants' host country identification. If ethnic boundaries are blurred, by contrast, native friends may increase immigrants' national identification.<sup>2</sup>

### 4.2.3 Hypotheses for Turks and Ethnic Germans in Germany

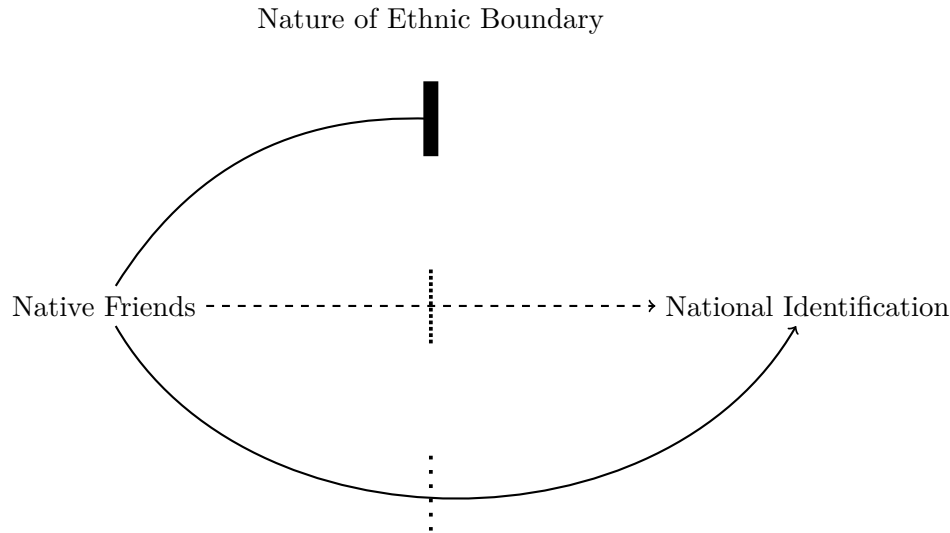
Drawing on Schulz and Leszczensky (2016), I now discuss how immigrants of Turkish origin and ethnic Germans differ with respect to perceived discrimination and the (in-)compatibility of ethnic and national identities. Then I derive for these two key immigrant groups in Germany specific hypotheses that follow from related differences in the nature of ethnic boundaries.

The level of perceived *discrimination* and rejection by the native population differs remarkably between Turks and ethnic Germans. Studies have repeatedly found a particularly large social distance between native Germans and Turkish immigrants (Martinović and Verkuyten 2012; Steinbach 2004; Vedder et al. 2007). Turks in Germany perceive quite strong levels of discrimination and rejection by native Germans, as consistently documented by both quantitative (Blohm and Wasmer 2008; Diehl and Steinmann 2012; Ganter 2003; Skrobanek 2009) and qualitative studies (Çelik 2015; Ehrkamp 2006; Ersanilli and Saharso 2011; Witte 2015). Ethnic Germans, by contrast, are

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<sup>2</sup>Of course, bright and blurred ethnic boundaries refer to ideal types. In fact, think about the nature of ethnic boundaries as a continuum of which, as argue below, Turkish and ethnic German immigrants mark the respective end points in the German context.

**Figure 4.1:** *How Ethnic Boundaries Determine the Impact of Native Friends on Immigrants' National Identification*



not only viewed more favorably than Turkish peers by native German youths, but also themselves evaluate native German peers almost as positively as their co-ethnic peers (Brüß 2005). On average, ethnic Germans also report comparatively low levels of discrimination (Brenick et al. 2012; Titzmann et al. 2011).

The *(in)-compatibility of ethnic and national identities* also differs between Turks and ethnic Germans. For Turkish immigrants it is apparently not easy to combine their ethnic with the German national identity (Diehl et al. 2016; Witte 2015), as both are negatively correlated, with national identification being relatively low and ethnic identity being especially strong (Diehl and Schnell 2006; Ersanilli and Saharso 2011; Martinović and Verkuyten 2012; Verkuyten and Yildiz 2007, also see Chapter 2). Moreover, even many second-generation Turks who were born in Germany do not hold German citizenship (Alba 2005; Diehl and Blohm 2003). Ethnic Germans, by contrast, share an ethnic foundation with native Germans (Brenick et al. 2012: 114). Although ethnic and national identities are negatively related among ethnic Germans as well (Phinney et al. 2006; Stoessel et al. 2012), ethnic Germans tend to stress the fact that their ethnic heritage is German (Dietz 1999), which should generally favor the adoption of German national identification (Steinbach 2001). Parents of ethnic Germans as well as the native German population also support the adoption of ethnic German adolescents into the German society (Titzmann et al. 2011).

**Table 4.1:** *The Nature of Ethnic Boundaries and Hypotheses regarding the Effect of Native Friends on the National Identification of Turks and Ethnic Germans in Germany*

Immigrant Group	Perceived Discrimination	Incompatibility of Identities	Nature of Ethnic Boundary	Effect of Native Friends
Turks	strong	high	bright	no
Ethnic Germans	low	low	blurred	yes

To conclude, the ethnic boundary between Turkish immigrants and the native German population is particularly *bright*, as expressed by comparatively high levels of perceived discrimination and a rather strong incompatibility of ethnic with national identities (also see Diehl et al. 2016; Witte 2014). In contrast, the boundary between ethnic Germans and native Germans is much more *blurred*. In line with Schulz and Leszczensky (2016), I therefore hypothesize that native friends have a strong effect on ethnic Germans' host country identification, but that they have no effect on the national identification of Turkish immigrants. *Table 4.1* provides an overview of the level of perceived discrimination, the incompatibility of ethnic and national identities, the resulting nature of ethnic boundaries, and the related hypotheses for the two immigrant groups.

## 4.3 Data and Methods

### 4.3.1 Data

I use two comparable German three-wave panel data sets to examine group differences in the effect of native friends on national identification of Turks and ethnic Germans. On the one hand, I rely on data from the first three waves of the German part of the *Children of Immigrants Longitudinal Study in Four European Countries* (CILS4EU, Kalter et al. 2014, 2015). On the other, I also use data from the project *Immigrants' Children in the German and Israeli Educational Systems* (BMBF, Jacob et al. 2012), which we already met in Chapter 2. Below I introduce both data sets.<sup>3</sup>

**CILS4EU Data** The CILS4EU data contain longitudinal information from a nationally representative sample of children of immigrants as well as a native German reference group (CILS4EU 2014).<sup>4</sup> In the first wave, conducted in late 2010 and early 2011, adolescents from classes in the 10th

<sup>3</sup>As will become clear in the methods section, the panel models I estimate require (at least) three waves of data. This requirement rules out the additional use of the *TASS* data I used in Chapter 3.

<sup>4</sup>See the project's web site at <http://cils4.eu/>.

grade completed a written questionnaire in school. Students therefore were about 15 years old in the first wave. Students who were ill or otherwise absent received a questionnaire at home. Follow-up interviews were conducted roughly one year later, each. As many students left school after wave one or two, most interviews in wave three were conducted by phone.<sup>5</sup> Overall, more than 2.000 students with a migration background were interviewed in wave 1. In order to achieve this high number of adolescents with an immigration background, schools with higher proportions of immigrant students were oversampled. Within these schools, at least two school classes were randomly selected and all students within these classes were surveyed (CILS4EU 2014).

Students' ethnicity is based on their own country of birth as well as on the country of birth of their parents and grandparents (for details, see Dollmann et al. 2014). A student is coded as a *Turk* if at least one of these people was born in Turkey. Unfortunately, it is not possible to directly identify *ethnic Germans* in the CILS4EU data. Following Söhn (2011: 181ff.), I defined as ethnic Germans all students stemming from countries of the former Soviet Union who possess German citizenship, as ethnic German immigrants were naturalized after immigration. I further coded students of Polish and Romanian origin with German citizenship as ethnic Germans, but only if they, or their parents, had migrated to Germany before 1993. This is because the vast majority of ethnic Germans from Poland and Romania arrived until 1993 (Dietz 1999: 155), whereas almost all ethnic German immigrants who came after 1993 migrated from the former Soviet Union (Dietz 2000: 637).

My analyses rely on 460 Turkish and 229 ethnic German students for whom information for native friends and national identification is available for all three waves. Compared to data sources used in earlier cross-sectional studies (e.g., De Vroome et al. 2014; Schulz and Leszczensky 2016), the CILS4EU data allow me to analyze the *development* of different immigrant groups' national identification. At the same time, the CILS4EU data are relatively similar to the data used in earlier studies, such as the one I conducted in Chapter 2, which makes the results comparable. In particular, the age of the target group is the same, as are the number of waves and the length of gaps between these waves. As I will show in a moment, key variables also are measured quite similarly. The CILS4EU data thus provide the opportunity to conduct analyses that closely resemble those in earlier studies while at the same time going beyond these earlier studies in important ways.

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<sup>5</sup>This change in the mode of data collection is undesirable as the mode of data collection may affect students answers to identity-related questions, even though these effects appear to be small (Nandi and Platt 2011). Unfortunately, it is not possible to control for mode effects, because there are virtually no students for whom the mode of data collection is constant.

**BMBF Data** As you may recall, the BMBF data (Jacob et al. 2012) are the three-wave German panel data set that I already relied on in Chapter 2. Yet, while in Chapter 2 I focused on immigrants of Turkish origin, the BMBF data also include information on ethnic German students. In fact, in contrast to the CILS4EU data, ethnic Germans were directly targeted in the BMBF data and therefore can actually be identified (see Jacob et al. 2012: 11ff.). I restrict the analysis to 410 Turkish and 160 ethnic German students for whom I have complete information for all three points in time.<sup>6</sup>

The data set consists of two subsamples that are both used in the analysis: a household survey and a school survey. The respondents in the household survey were drawn randomly from data of registration offices in 18 cities in the three federal states of North Rhine-Westphalia, Hamburg, and Hesse, thereby oversampling immigrants from Turkey and the former Soviet Union. The school survey additionally targeted schools with high shares of immigrants in 27 cities within the same federal states; in these schools, all students from grades nine and ten with a Turkish or a former Soviet Union background were interviewed. The school survey makes up three quarters of the total sample. The data set is thus in part a clustered convenience sample and therefore not representative of ethnic Germans in Germany.

Like in the CILS4EU data, students were about 15 years old in the first wave, which was collected during the 9th or 10th school year between November 2007 and September 2008. The second and third interviews were each conducted approximately one year later. In the first wave, students in the household sample were interviewed face-to-face at home using standardized questionnaires, whereas students in the school survey filled out slightly adapted paper-and-pencil questionnaires at school. In the second and third waves, computer-assisted telephone interviews were used for all students.

### 4.3.2 Variables

In both the CILS4EU and the BMBF data, I use precisely the same constructs and estimate the same statistical models. As summed up in *Table 4.2*, the variables underlying these constructs are measured relatively similarly, though not identically, in both data sets.

**National Identification** In the *CILS4EU data*, national identification was captured by the question of how strongly the students felt themselves to be German. Students ranked themselves on a four-point Likert scale, ranging from 1 “not at all strongly” to 4 “very strongly”.

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<sup>6</sup>Note that the number of Turkish students I analyze in this chapter ( $n = 410$ ) is somewhat higher than that of the Turkish students I analyzed in Chapter 2 ( $n = 375$ ). This is because I rely on fewer variables in the current chapter and therefore lose fewer cases due to item non-response. As will be seen, however, descriptives and multivariate results are fairly similar to the subgroup of Turkish students I relied on in the earlier chapter.



**Table 4.2:** *Measurement of National Identification and Native Friends in the CILS4EU and BMBF Data*

Variable	CILS4EU Data		Item	BMBF Data	
	Item	Scale		Item	Scale
National identification	How strongly do you feel German?	1-4	To what degree do you think of yourself as German?		1-5
Native friends	Thinking now about all of your friends. How many of them have a German background?	1-5	Information on three best friends (personal network generator)		0-1

As in Chapter 2, in the *BMBF data* national identification was captured by the degree to which the student thought of him- or herself as German, ranked on a five-point scale from 1 “not at all” to 5 “completely”. I already used this measure in Chapter 2. The measures in both data sets thus are quite similar to each other as well as to those used by earlier studies (e.g., Munniksmma et al. 2015, also see Chapter 3).

**Native Friends** In the *CILS4EU data*, native friends were measured by the question of how many of the students’ friends had a German background. Answers were given on a five-point scale, ranging from “Almost all or all” over “roughly half of them” to “none or very few”. This measure again is comparable to prior studies (e.g., Schulz and Leszczensky 2016).

In the *BMBF data*, like in Chapter 2, native friends were measured by the share of German friends among the students’ three best friends, expressed as an index ranging from 0 to 1.

### 4.3.3 Analytical Strategy<sup>7</sup>

In a first step I estimate cross-sectional OLS regressions predicting national identification separately for Turks and ethnic Germans at all three points in time. Like in Chapter 2, the sole purpose of these models is to give an initial

<sup>7</sup>In the current chapter I only consider panel models for ego-centric network data. Why is that, given that I have shown in the previous chapter that stochastic actor-oriented models (SAOM) on complete networks provides us with nice means to establish causal ordering? The answer is that while SAOM are a good tool to separate selection from influence processes, they are much less suited for analyzing group differences. This is because SAOM do not allow to estimate group-specific models, and including group-specific dummies in one joint model would, in our case, lead to four-way-interactions for which model convergence would hardly be achieved.

impression of the strength and direction of the relation between national identification and native friends without worrying about causal inference.

As we know from Chapter 2, even with panel data determining causal order is challenging. Recall that causal inference is threatened by endogeneity due to both unobserved heterogeneity and reverse causality, the latter one in our case implying a potential feedback effect of immigrants' national identification on their share of native friends. Fixed-effects models remedy the problem of unobserved heterogeneity by only using within-person variation (Allison 2009; Brüderl and Ludwig 2014; Halaby 2004). Yet fixed-effects models rely on the key assumption of *strict exogeneity*, which requires that the idiosyncratic error terms be unrelated to past, current, and *future* values of the independent variables (Wooldridge 2011). This assumption is necessarily violated if the dependent variable affects later values of the independent variable. In other words, estimators obtained by fixed-effect models are biased in the case of reverse causality (Allison 2009).

Following the work of Allison (2009), earlier in this book I applied lagged first-difference models (LFD) to account for both unobserved heterogeneity *and* reverse causality. However, as I briefly mentioned in Chapter 2, Vaisey and Miles (2014) recently demonstrated that results obtained by LFD models may be seriously biased if the lags in the data do not correspond to the causal lags in the real-world process under study. As they show through simulations, using incorrect lags may in fact lead to coefficients that are the opposite sign of the true parameter value. It therefore is especially suspicious if LFD models find counterintuitive negative effects. This is why Vaisey and Miles (2014: 21) warn against using LFD models to establish causal ordering “unless the lags between panels match the real-world causal lags in the processes under study.”

But how do we know if this is the case? One answer is theory. But unfortunately, as I have argued in the discussion in Chapter 2, theories on friends and identification are hardly precise enough to predict the exact timing of respective effects. In fact, existing theories are silent about *when exactly* changes in the ethnic composition of an immigrants' friendship network should affect the strength of his or her national identification. While a lag of one year intuitively seems reasonable to me, there admittedly is no strong theoretical guidance for the choice of a particular timeframe. This leaves me with an educated guess. On the one hand, it appears unlikely that the real-world causal lags match the gaps between panel waves. On the other hand, according to the simulations by Vaisey and Miles (2014) we would only come to substantively wrong conclusions if the effect would be fully, or almost fully, contemporaneous. And it is, I believe, highly unlikely that changes in the friendship network *immediately* lead to changes in identification.

Still, unless we don't want to give up on our aim of determining causal order (which we don't), we once again are stuck with imperfect methods. As Angrist and Pischke (2009: 245) put it:

So what's an applied guy to do? One answer, as always, is to check the robustness of your findings using alternative identifying assumptions. That means that you would like to find broadly similar results using plausible alternative models.

So let's be applied guys and compare results of three different panel model specifications that rely on alternative identifying assumptions.

**FD model** We start with a conventional *first-difference* (FD) model, as expressed in the equation

$$\Delta \text{Id}_i = \Delta \mu + \beta_1 \Delta \text{Fr}_i + \Delta \epsilon_i, \quad (4.1)$$

where  $\Delta$  indicates a difference score (Allison 2009).  $\text{Id}_i$  represents national identification and  $\text{Fr}_i$  represents the share of native friends.  $\epsilon_i$  is an error term that is assumed to be randomly distributed, independently of  $\text{Fr}_i$ .

Since the FD model exploits variation within individuals over time rather than variation between individuals, like the FE model it protects against bias due to time-invariant unobserved heterogeneity (Wooldridge 2011). If unobserved heterogeneity were our only concern in terms of causal inference, the FD (or FE) model thus would be a solution. Alas, as we know, it isn't. Instead, we know from earlier chapters that there are theoretical reasons to expect that immigrants' national identification will affect the share of native friends. In fact, I showed in Chapter 3 that immigrants' national identification can shape natives' friendship choices, thus resulting in higher shares of native friends for immigrants with strong national identification.

**LFD Model** This is why I again estimate the *lagged first-difference model* (LFD) that I already used in Chapter 2.<sup>8</sup> Recall that with three waves of data, the LFD model is defined by the following equation (see Allison 2009: 94 as well as Chapter 2):

$$\text{Id}_{i3} - \text{Id}_{i2} = (\mu_3 - \mu_2) + \beta_1 (\text{Fr}_{i2} - \text{Fr}_{i1}) + (\epsilon_{i3} - \epsilon_{i2}). \quad (4.2)$$

where  $\text{Id}$  again represents national identification, and  $\text{Fr}$  the share of native friends.  $\epsilon_{it}$  again is a random error that is assumed to be independent of  $\text{Fr}_{i2} - \text{Fr}_{i1}$ . The LFD model thus estimates the effects of changes in the share of native friends from  $t_1$  to  $t_2$  on the difference score of national identification between  $t_2$  and  $t_3$ . The assumption of strict exogeneity thereby is relaxed in favor of *sequential* exogeneity, and equation 4.2 can consistently be estimated by applying OLS (Allison 2009). As only within-person variation is used, fixed effects still are differenced out and time-invariant unobserved

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<sup>8</sup>Following the practice of econometric approaches (e.g., Allison 2014), I leave implicit the respective first-difference model predicting native friends, for in the current chapter I am only interested in the effect of native friends on immigrants' national identification.

heterogeneity no longer poses a problem. The LFD model thus protects against both sources of endogeneity.

Importantly, I treat the nature of ethnic boundaries as *time-invariant*. That is, albeit that perceived discrimination and the (in-)compatibility of ethnic and national identities may change over time, I assume that for the three years of study they did *not*. This assumption seems justified if one considers that discrimination and compatibility of identities in this context refer to *social* (i.e., macro-level) conditions rather than to individual characteristics. While perceptions of *individual* discrimination and compatibilities of identities may fluctuate, the broader social context is arguably much more stable (see, e.g., Semyonov et al. 2006; Wimmer 2008). In fact, there is evidence that attitudes towards immigrants in Germany have remained relatively stable since the beginning of the 21st century (Meuleman et al. 2009). Because the LFD model by design controls for effects of time-invariant characteristics, unmeasured baseline differences between immigrant groups in discrimination and incompatibility of ethnic and national identities would not bias the results.<sup>9</sup>

**ML-SEM** Very recently, Allison (2014) proposed an alternative to the LFD model that works without first-differencing but still allows estimating alleged reciprocal effects. This alternative approach basically implements a cross-lagged panel model in the framework of structural equation modeling so that it can be estimated using maximum likelihood.<sup>10</sup> For our case at hand, this ML-SEM is specified by the equation

$$\text{Id}_{it} = \mu_t + \beta_1 \text{Fr}_{i,t-1} + \alpha_i + \epsilon_{it}, \quad (4.3)$$

where  $\text{Id}_{it}$  represents national identification,  $\text{Fr}_{i,t-1}$  represents the lagged value of native friends, and  $\mu_t$  is a time-varying intercept.  $\epsilon_{it}$  is a random error term, and  $\alpha_i$  captures the combined effects on national identification of all unmeasured time-constant variables. As in the LFD model, the assumption of strict exogeneity is replaced by the assumption of sequential exogeneity. This means that for all  $u > t$ ,  $\text{Fr}_{it}$  is assumed to be independent of  $\epsilon_{ut}$ , i.e., the error term is independent of all *prior* values of the dependent variable.

Allison (2014) shows that equation 4.3 can be estimated by maximum likelihood (also see Moral-Benito 2013). The key insight is that  $\alpha_i$  does not have to be treated as a fixed parameter. Rather, as pointed out by Mundlak (1978) and Chamberlain (1982), this individual-specific effect of

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<sup>9</sup>Further note that even changes in discrimination and compatibility of identities would not necessarily result in biased estimates. In fact, such a bias would only arise if the nature of respective changes would systematically differ between Turkish and ethnic German students, which is even less likely.

<sup>10</sup>This approach is similar to the one by Bollen and Brand (2010), who proposed a general structural equation model for panel data but, unlike ML-SEM, assume strict exogeneity. Further note the similarities between ML-SEM and the approach by Moral-Benito (2013).

all unobserved time-constant variables is allowed to be correlated with time-varying predictors, so that it is not necessary to impose assumptions on the initial observation of  $Fr_{i,t1}$ . Instead,  $Fr_{i,t1}$  is treated as strictly exogenous, which is appropriate since it is actually not known what precedes this observation. Monte Carlo simulations show that ML-SEM produces unbiased estimates in a variety of situations (Allison 2014; Moral-Benito 2013). I estimate the ML-SEM using the Stata ado `xtdepml` (Williams et al. 2015).

## 4.4 Results

### 4.4.1 Descriptive Statistics

*Table 4.3* provides descriptive statistics for Turks and ethnic Germans in the CILS4EU and the BMBF data for all available points in time separately.

**CILS4EU Data** While the vast majority of students of Turkish origin in the CILS4EU data belong to the second generation, almost four out of ten ethnic German students are first-generation immigrants. Nevertheless, as *Table 4.3* shows, ethnic German students expressed a higher degree of German national identification than Turks. In line with previous research (e.g., Diehl and Schnell 2006; Schulz and Leszczensky 2016), Turkish immigrants not only showed comparatively low levels of national identification but also identified more strongly than ethnic Germans with their own ethnic group. Turkish students also reported having fewer German friends than ethnic Germans.

For both Turks and ethnic Germans, national identification went up over time. The average share of native friends, by contrast, declined over the period of study, especially between the first two waves. More important, though, is whether there was *intraindividual* change in the share of native friends across waves, for this change can be exploited by panel models to estimate the effect of having native friends. *Table 4.4* shows that there indeed was a considerable degree of intraindividual fluctuation in the share of native friends. Between both waves, the share of native friends changed for more than half of the students from both immigrant groups. This high amount of intraindividual variation validates first-difference based models that rely on intraindividual variation in the share of native friends.

**BMBF Data** For national identification, the general pattern in the BMBF data is similar to the one in the CILS4EU data reported above, with Turks again identifying less with Germany than did ethnic Germans. However, in contrast to the CILS4EU data, Turkish students in the BMBF data reported higher rather than lower shares of native friends than ethnic Germans did. In all three waves roughly almost half of the Turkish students' friends were

**Table 4.3:** *Descriptive Statistics for Immigrant Groups in the CILS4EU and the BMBF Data (S.D. = Standard Deviation; w = Wave)*

<b>CILS4EU Data</b>		<b>Turks (n = 460)</b>		<b>Ethnic Germans (n = 229)</b>	
Variable	Range	Mean	S.D.	Mean	S.D.
National identification (w1)	1/4	2.38	.93	2.99	.88
National identification (w2)	1/4	2.52	.99	3.18	.85
National identification (w3)	1/4	2.71	.93	3.21	.80
Native friends (w1)	1/5	2.89	1.27	3.53	1.25
Native friends (w2)	1/5	2.78	1.23	3.37	1.27
Native friends (w3)	1/5	2.79	1.27	3.30	1.29

<b>BMBF Data</b>		<b>Turks (n = 410)</b>		<b>Ethnic Germans (n = 160)</b>	
Variable	Range	Mean	S.D.	Mean	S.D.
National identification (w1)	1/5	2.18	1.11	2.97	1.20
National identification (w2)	1/5	2.55	1.12	3.21	1.05
National identification (w3)	1/5	2.65	1.11	3.06	1.22
Native friends (w1)	0/1	.43	.40	.31	.35
Native friends (w2)	0/1	.52	.38	.35	.35
Native friends (w3)	0/1	.49	.38	.35	.34

*Source I:* Children of Immigrants Longitudinal Study in Four European Countries.  
*Source II:* Immigrants' Children in the German and Israeli Educational Systems.

**Table 4.4:** *Individual Changes in the Share of Native Friends in the CILS4EU and the BMBF Data*

Share of Native Friends	Wave 1 to Wave 2		Wave 2 to Wave 3	
	Percent	Number	Percent	Number
<b>Turks (CILS4EU)</b>				
No change	43.3	199	39.1	180
Increase	23.9	110	30.4	140
Decrease	32.8	151	30.4	140
Total	100	460	100	460
<b>Ethnic Germans (CILS4EU)</b>				
No change	45.0	103	45.8	105
Increase	22.3	51	24.9	57
Decrease	33.7	75	29.3	67
Total	100	229	100	229
Share of Native Friends	Wave 1 to Wave 2		Wave 2 to Wave 3	
	Percent	Number	Percent	Number
<b>Turks (BMBF)</b>				
No change	40.0	164	40.7	167
Increase	36.8	151	28.3	116
Decrease	23.2	95	31.0	127
Total	100	410	100	410
<b>Ethnic Germans (BMBF)</b>				
No change	56.9	91	59.1	85
Increase	25.0	40	17.5	28
Decrease	18.1	29	29.4	47
Total	100	160	100	160

*Source I:* Children of Immigrants Longitudinal Study in Four European Countries.

*Source II:* Immigrants' Children in the German and Israeli Educational Systems.

natives; ethnic German students, by contrast, reported having only about a third native friends.

Like in the CILS4EU data, national identification of both Turkish and ethnic German students increased over the period of study. The aggregate level of the share of native friends, by contrast, was relatively stable over time. Again, though, what matters is intraindividual change. And as *Table 4.4* shows, as in the CILS4EU data, the share of native friends indeed changed for more than half of the Turkish students from each wave to the next. Ethnic German students displayed somewhat less change, but also for them the share of native friends provides enough intraindividual variation to apply first-differences.

**Cross-Sectional OLS Models** For both the CILS4EU and the BMBF data, *Table 4.5* contains the results of group-specific cross-sectional OLS models predicting national identification at all three points in time. These coefficients give us a first impression of the relation between native friends and national identification for Turks and ethnic Germans.<sup>11</sup>

The coefficients of the native friends variable are quite similar for Turks and ethnic Germans in both data sets. As we would expect from previous studies (e.g., Agirdag et al. 2011; Sabatier 2008), at all points in time native friends were positively related to the national identification of both groups. The findings for the Turkish students are also similar to those in Chapter 2.

**Table 4.5:** *Coefficients for Native Friends from Cross-sectional OLS Models Predicting National Identification for All Three Waves of the CILS4EU Data (Standard Errors in Parentheses)*

	Wave 1	Wave 2	Wave 3
<b>CILS4EU</b>			
Turks	.236***	.247***	.215***
( <i>n</i> = 460)	(.032)	(.036)	(.033)
Ethnic Germans	.336***	.287***	.258***
( <i>n</i> = 229)	(.041)	(.040)	(.038)
<b>BMBF</b>			
Turks	.809***	.639***	.854***
( <i>n</i> = 410)	(.132)	(.141)	(.139)
Ethnic Germans	.903***	.817***	1.362***
( <i>n</i> = 160)	(.265)	(.232)	(.261)

\*\*\*  $p < 0.001$ .

*Source I:* Children of Immigrants Longitudinal Study in Four European Countries.

*Source II:* Immigrants' Children in the German and Israeli Educational Systems.

#### 4.4.2 Group Differences in the Effect of Native Friends on Immigrants' National Identification

**CILS4EU Data** Addressing the issue of causality, I next estimated the three panel model specifications described in the methods section. I again

<sup>11</sup>To avoid distraction, the models do not include further controls. However, additional models including such controls, not reported here, show that the coefficients for native friends still are significantly positive when sex, age, immigrant generation, host-language proficiency, and socio-economic status (ISEI) are added to the models.



**Table 4.6:** *Coefficients from Different Panel Models Predicting National Identification in the CILS4EU Data (Robust Standard Errors in Parentheses)*

<b>Turks (<math>n = 460</math>)</b>			
	FD	LFD	ML-SEM
$\Delta$ Native friends <sub><math>i</math></sub>	.135*** (.027)		
Native friends <sub><math>i2-i3</math></sub>		-.082* (.041)	
Native friends <sub><math>i,t-1</math></sub>			-.070* (.036)
<b>Ethnic Germans (<math>n = 259</math>)</b>			
	FD	LFD	ML-SEM
$\Delta$ Native friends <sub><math>i</math></sub>	.013 (.035)		
Native friends <sub><math>i2-i3</math></sub>		.034 (.051)	
Native friends <sub><math>i,t-1</math></sub>			.038 (.043)

<sup>+</sup>  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

*Source:* Children of Immigrants Longitudinal Study in Four European Countries.

start with the CILS4U data, first discussing findings for Turks, then those for ethnic Germans. The results are in *Table 4.6*.<sup>12</sup>

Starting with the *FD model*, we see a positive association between native friends and Turkish students' national identification. Increases in the share of Turkish students' native friends thus were related to simultaneous increases in their national identification. This pattern does not tell us, though, whether one of these changes was responsible for the other one. This is what the *LFD model* is for. The LFD model reveals that increases in the share of native friends from Wave 1 to Wave 2 did not result in changes of national identification from Wave 2 to Wave 3. On the contrary, the effect is negative and significant. This finding is echoed by the *ML-SEM model*, the results of which are very close to those of the LFD model. In light of the critique by

<sup>12</sup>Recall that I leave implicit respective models predicting native friends. But note that results, not shown here, of LFD models predicting native friends while using the share of native friends as an explanatory variable were similar to those of Chapter 2. That is, changes in immigrants' national identification did not result in changes in the share of immigrants' native friends. This finding holds true for both Turks and ethnic Germans, and for both data sets under study.

of Vaisey and Miles (2014) these surprising effects raise doubts that the lags in the data correspond to the real-world causal process, thus questioning a causal interpretation of the LFD and the ML-SEM model. Unfortunately, based on the CILS4EU data we therefore cannot draw firm causal conclusions. Still, there is little evidence that native friends increased Turkish students' national identification.

But what about ethnic Germans? For them, the *FD model* does not yield an effect of native friends. Neither do the *LFD model* and the *ML-SEM model*. Based on the CILS4EU data, we therefore have to reject the hypothesis that increases in native friends led to increases in ethnic German students' national identification.

**BMBF Data** Let us now turn to the BMBF data. *Table 4.7* contains the results; we again first look at the models for Turkish students.

As in the CILS4EU data, the *FD model* shows a positive association between native friends and national identification of Turks. However, this effect is gone in the *LFD model* and the *ML-SEM model*. In line with theoretical expectations, there thus is no evidence that changes in the share of native friends were related to changes in Turkish students' national identification. This result further is consistent with what we have seen in Chapter 2.

Finally, let's look at the ethnic Germans in the BMBF data. The *FD model* shows a negative but small and statistically insignificant association between native friends and ethnic Germans' national identification. The *LFD model*, by contrast, yields a positive effect, even though this effect does not reach statistical significance. The *ML-SEM model* provides evidence of a positive effect of native friends on ethnic Germans' national identification. In the BMBF data, there thus is some indication that increases in the share of native friends resulted in increases in ethnic German students' national identification.

## 4.5 Conclusion and Discussion

Do native friends affect immigrants' identification with the host country? According to most longitudinal studies, including those in this book, they don't. In this chapter, however, I argued that the impact of native friends on immigrants' national identification might depend on the nature of ethnic boundaries. Following Schulz and Leszczensky (2016), I hypothesized that while friends indeed foster immigrants' national identification if ethnic boundaries are blurred, they fail to do so if boundaries are bright. Using two German three-wave panel data sets and different panel model specifications, I tested this hypothesis for Turkish and ethnic German students.

Comparing the results of different panel models, my findings provide some evidence in favor of my group-specific hypotheses. As expected, in both

**Table 4.7:** *Coefficients from Different Panel Models Predicting National Identification in the BMBF Data (Robust Standard Errors in Parentheses)*

	<b>Turks (<math>n = 410</math>)</b>		
	FD	LFD	ML-SEM
$\Delta$ Native friends <sub><math>i</math></sub>	.407*** (.102)		
Native friends <sub><math>i2-i3</math></sub>		.064 (.141)	
Native friends <sub><math>i,t-1</math></sub>			.017 (.147)
	<b>Ethnic Germans (<math>n = 160</math>)</b>		
	FD	LFD	ML-SEM
$\Delta$ Native friends <sub><math>i</math></sub>	-.022 (.206)		
Native friends <sub><math>i2-i3</math></sub>		.389 (.273)	
Native friends <sub><math>i,t-1</math></sub>			.468 <sup>+</sup> (.266)

<sup>+</sup>  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Source: Immigrants' Children in the German and Israeli Educational Systems.

data sets under study increases in the share of native friends did not seem to have resulted in increases of Turkish students' national identification. By contrast, in line with my hypothesis I found such an effect for ethnic Germans in the BMBF data. I did not find this effect, however, in the CILS4EU data. While this contradicts my hypothesis, we should bear in mind that ethnic Germans could not unequivocally be identified in the CILS4EU data, which makes the respective analysis somewhat less reliable than the analysis based on the BMBF data, in which the effect was found.

In sum, I contend that the results of this chapter indicate that native friends may increase immigrants' host country identification—but only if social conditions already are relatively favorable in the sense of blurred ethnic boundaries. Against the backdrop of relatively bright ethnic boundaries, by contrast, native friends apparently are not enough to strengthen immigrants' national identification. The main implication of this chapter therefore is that ethnic boundaries determine whether or not native friends affect the development of young immigrants' host country identification.

The results of this chapter further help us to make sense of the seemingly mixed findings of earlier studies. Using partly the same data set and a

similar methodological approach, in Chapter 2 I did not find effects of native friends on Turkish immigrants' national identification. I inferred that time-constant joint unobserved determinants account for the positive cross-sectional relation between identification and friends. A bright ethnic boundary as indicated by perceived discrimination and incompatibility of ethnic and national identities may constitute precisely such a determinant, at the same time preventing Turkish immigrants from making native friends and from developing a pronounced national identification. Assuming that this bright boundary is stable, this may thus explain why Chapter 2 did not identify influences of native friends on Turkish youths' national identification.

Similarly, the findings in this chapter might explain why in Chapter 3 I did not find that native friends affected immigrants' host country identification. The analyses in the respective chapter relied on a sample of mainly non-Western immigrants in the Netherlands for whom ethnic boundaries arguably are rather bright as well (see De Vroome et al. 2014; Verkuyten and Yildiz 2007). Finally, my results support the findings of Schulz and Leszczensky (2016), who provided first evidence for group-specific effects, but could not draw firm causal conclusions due to the cross-sectional design of their study.

The analyses conducted in this chapter are not without limitations. Sample sizes are relatively small, and the measurement of both native friends and national identification, though comparable with those in earlier studies, certainly could be improved (see Leszczensky and Gräbs Santiago 2015). In addition, ethnic boundaries were not directly measured, but inferred from findings of earlier research. In particular, one might contend that perceived discrimination and incompatibility of ethnic and national identities may indeed change over time, thus challenging my assumption that, for the period of study, they did not. On the other hand, recall that in the context of the current chapter, these variables refer to *social* conditions that are arguably relatively stable over the three years of study. If this assumption holds, time-invariant differences would be controlled for by my panel models, thus not resulting in biased estimators.

Still, even if the assumption of stable ethnic boundaries is met, a methodological caveat of panel models based on within estimators is that the findings only apply to those students who actually changed their share of native friends over the period of study. While this restriction allows for more rigorous causal inference, potential effects of stable shares of native friends are thus not accounted for. For instance, a constant low share of native friends may hamper the development of immigrants' host country identification, or a constant high share may strengthen national identification.

Finally, correctly estimating the effect of native friends requires a match of the lags between periods of observation and the real-world causal processes (Vaisey and Miles 2014). For Turks in the CILS4EU data, this assumption seems especially doubtful, given the unexpected change of the sign of the

coefficient. With only three waves of data, however, it is not possible to tackle this methodological problem (Allison 2014).

I close by recommending three fruitful directions for further research. First, direct measurements of *individual perceptions of ethnic boundaries* are desirable to more closely investigate the underlying mechanisms of immigrants' identity development. Even though in this chapter I conceived of ethnic boundaries as being relatively stable social conditions, *individual* perceptions of these boundaries may still vary over time. Equally important, members of the same immigrant group may notably differ in their perception of discrimination or the compatibility of ethnic and national identities (see, e.g., Berry et al. 2006: 316f.; Jasinskaja-Lahti et al. 2009). More direct tests of these mechanisms are desirable.

Second, in the current chapter I studied two rather specific immigrant groups. On the one hand, ethnic Germans have quite a unique role within the German society. They not only possess several legal advantages like granted citizenship, but the ethnic boundary between them and native Germans also is arguably much more blurred than for other immigrant groups (Dietz 1999; Luthra 2013; Schulz and Leszczensky 2016). Turkish immigrants, on the other hand, lie at the other end of the continuum, being separated from native Germans by a particularly bright ethnic boundary (Alba 2005; Diehl et al. 2016; Witte 2014). Therefore, the question arises whether friends affect the national identification of immigrant groups for whom ethnic boundaries are more pronounced than for ethnic German but less pronounced than for Turkish immigrants. Future research is needed on such immigrant groups, for example stemming from Southern Europe or Poland.

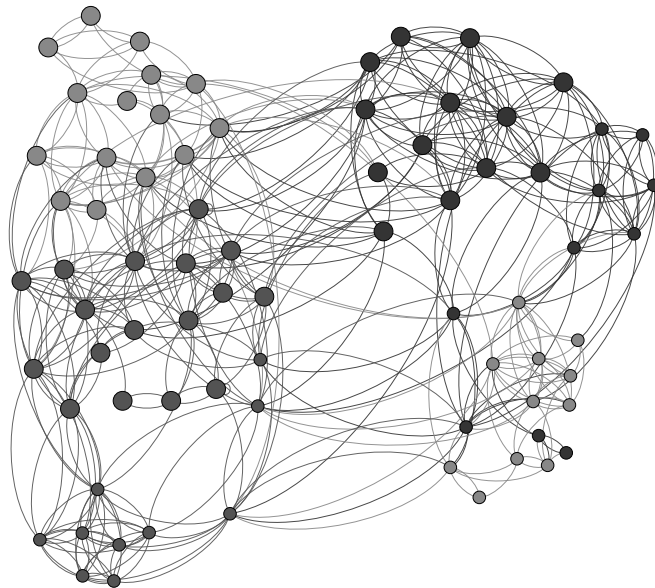
Third, while I contend that the methodological approach in this chapter allows me to draw relatively firm causal conclusions, the applicability of these conclusions is limited. As mentioned above, the findings only apply to those students who indicated varying shares of native friends between wave one and wave two. More flexible strategies for causal inference therefore clearly are desirable. As I demonstrated in the previous chapter, social network analysis offers a particularly interesting avenue for this purpose, as it allows the application of stochastic actor-oriented to analyze the co-evolution of friendship networks and individual characteristics like national identification (see Snijders et al. 2010; Steglich et al. 2010). These models further build on a continuous time parameter without making any concrete, potentially false, assumption about the causal lags that exist in the real world. In combination with individual measures of perceived ethnic boundaries, network panel data thus offer the opportunity to broaden our understanding of potential group differences.



## Chapter 5

# Does Relative Group Size Matter for How Immigrants' National Identification Affects Friendship Choices?\*

A Robustness Test and the Role of Opportunity  
Structure



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\* I am currently preparing a slightly different version of this chapter for submission to a peer-reviewed journal.





## Does Relative Group Size Matter for How Immigrants' National Identification Affects Friendship Choices?

### A Robustness Test and the Role of Opportunity Structure

#### Abstract

In Chapter 3, we saw that native students preferred to befriend immigrants with stronger rather than weaker host country identification. Surprisingly, however, *no* respective preference of immigrants with strong host country identification for native friends was found, and there also was no evidence that friends influenced immigrants' identification. Following up on these findings, my aims in the current chapter are twofold: First, using newly collected data, I conduct a robustness test of my earlier study. While reproducing studies is generally important, the data I use in the current chapter have key advantages over those of earlier studies, such as a longer period of observation, a more precise measure of national identification, and larger friendship networks. Second, going beyond a mere robustness test with better data, I suggest that opportunity structure in the form of relative group size explains why immigrants' national identification did not matter for their friendship choices in the earlier chapter. In short, I hypothesize that immigrants' national identification especially matters for their own friendship choices in schools with high shares of immigrants, because immigrants can be pickier about native friends in these schools. Studying three waves of German network panel data using stochastic actor-oriented models, I find that in schools with high shares of immigrants, immigrants who identified more strongly with the host country indeed were more likely to befriend native peers than were immigrants with weaker host country identification. A meta-regression further indicates that immigrants' national identification mattered for their friendship choices in schools in which they made up the vast majority of the student body, but not in schools with lower shares of immigrants.

## 5.1 Introduction

In Chapter 3 I demonstrated how a longitudinal social network approach can advance our understanding of the interplay of immigrants' host country identification and their friendships with natives. Analyzing Dutch classroom networks, I showed that immigrants' national identification was neither influenced by the share of their native friends, nor by their friends' average national identification. In the last chapter, I offered bright ethnic boundaries that block potential effects of friends on identification as a possible explanation for the lack of such social influence processes.

With respect to *friendship choices*, I found that native youths preferred to befriend immigrants with stronger rather than weaker host country identification. Contrary to theoretical expectations, however, such immigrants with strong national identification were *not* in turn more eager to befriend native peers than were immigrants who identified less strongly with the host country.

Following up on this rather surprising finding, I pursue two goals in the present chapter. In order to collect more evidence of what is going on, my first goal is to *reproduce the study in Chapter 3 using more adequate data*.<sup>1</sup> While we have seen the potential of longitudinal social network analysis for separating selection from influence mechanisms, one key caveat of network studies is that they are prone to peculiarities of the networks under study (Wölfer et al. 2015: 58). To assess whether results obtained by a social network study are generalizable, reproduction of studies with different data therefore is of prime importance. Yet besides this general merit of robustness tests (Clemens 2015), there are three specific reasons why reproducing my earlier study is warranted.

First, in Chapter 3 I relied on two waves of data that covered a one-year period. One might question whether such a rather *short period of observation* suffices to detect social influence processes. Even though in the last chapter I suggested that friends might only influence immigrants' national identification under specific favorable conditions, having more waves of data over a longer period of time is desirable to test general social influence mechanisms. Second, like most longitudinal studies examining the interplay of immigrants' national identification and their friendships (e.g., Munniksma et al. 2015; Rutland et al. 2012, also see Chapters 2 and 4), the study I conducted in Chapter 3 used a rather *rough measure of national identification*. Given the ongoing debate on how to measure ethnic and national identities (see, e.g., Leszczensky and Gräbs Santiago 2015; Phinney and Ong 2007; Schwartz et al. 2014), a more

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<sup>1</sup>Following Clemens (2015: 3), I use the term “robustness test” for “estimat[ing] parameters drawn from a different sampling distribution from those in the original study.” In fact, in the terminology proposed by Clemens (2015), I am conducting a robustness test in the form of an “extension test”, meaning that I run the same statistical model on different data.

refined measurement would increase the reliability of findings. Third, in Chapter 3 I examined classroom friendship networks, which were *relatively small in size*. Larger networks that consist of more actors and ties between these actors, by contrast, provide more statistical power for estimation. This increased power is crucial for estimating complex models like those that are required to disentangle different selection and influence mechanisms that may account for the relation between immigrants' national identification and their friendships with natives.

Going beyond a mere robustness test with better data, my second goal in this chapter is to *explain why immigrants' national identification did not affect their friendship choices* in the study in Chapter 3. Adding to the three rather technical issues mentioned above, this surprising finding necessitates further research. In order to provide an explanation for this unexpected finding, I advance my earlier study by formulating and testing a respective theoretical argument about the role of opportunity structure.

In short, I suggest that *relative group size* in school determines whether or not immigrants' national identification affects their friendship choices. In the Dutch classrooms I studied in Chapter 3, immigrants constituted a minority of the student body. As I proposed in the discussion of that chapter, in such classrooms *natives* faced an opportunity structure in which they could be very picky in choosing immigrant friends; hence they could allow themselves to befriend immigrants with stronger rather than weaker national identification. *Immigrants* themselves, however, could not afford to be picky, for to have friends at all, they had to befriend (some) natives anyways. Immigrants' national identification thus may not have guided their friendship choices because they had to engage with natives irrespective of whether or not they preferred to do so. This situation differs in schools in which immigrants constitute the majority group. In such schools, immigrants have the opportunity to be picky about having native friends in the first place. While immigrants with strong national identification can still satisfy their preference for native friends in such a context, immigrants with weak national identification can avoid having native friends. In schools in which immigrants make up a larger part of the student body, the resulting opportunity structure therefore allows them to translate their identification-based *preferences* into actual friendship *choices*, which is why their national identification should matter more.

In the remainder of this chapter, I first point out why extended research on the role of immigrants' host country identification for friendship choices of both immigrants and natives is necessary, and develop a theoretical argument for how relative group size matters (5.2). After presenting data and methods (5.3), I empirically test my hypotheses (5.4). The chapter closes with a discussion in which I link the findings to those of prior research (5.5).

## 5.2 Theory

While replication and reproduction of empirical studies is generally important for scientific progress (Freese 2007; King 1995), in what follows I point to three particular reasons that necessitate additional research on the mechanisms that drive the association between immigrants' host country identification and their friendships with natives (5.2.1). Subsequently, I briefly remind us why immigrants' national identification may generally affect friendship choices, and why friends in turn might influence immigrants' national identification (5.2.2). Then I discuss how opportunity structure may affect identification-based friendship choices and formulate respective hypotheses about the role of relative group size (5.2.3).

### 5.2.1 Why Extended Research Is Necessary<sup>2</sup>

In the discussion in Chapter 3 I mentioned several limitations of the data I used to tease apart the selection and influences mechanisms contributing to the observed relation between immigrants' host country identification and their friendships with natives. I now point to three key limitations that call for extended research in the form of a robustness test with better data.

First, like other longitudinal studies (Munniksma et al. 2015; Rutland et al. 2012), in Chapter 3 I relied on two waves of data that cover a time span of one year. However, examining *more points of observation over a longer period of time* is desirable for two reasons. Substantively, a longer period of observation takes into account that even though ethnic and national identities are dynamic, changes in identification occur rather slowly (see Meeus 2011 for a review). Technically, having more waves over a longer period of time yields more statistical power to estimate both selection and influence mechanisms (Snijders et al. 2010). Taken together, for both substantive and technical reasons, studies relying on a longer period of observation with more time points therefore are crucial for detecting potential influence mechanisms that earlier studies might not have identified due to limited information in their data.

A second key shortcoming of my earlier study is that it employed a rather weak measure of national identification. In fact, I relied on a single-item measure, as did Munniksma et al. (2015) and as I did in Chapters 2 and 4 as well. Even though using this measurement I could reproduce findings of cross-sectional studies that relied on more adequate multi-item measures (e.g., Agirdag et al. 2011; Phinney et al. 2006; Sabatier 2008), a *more fine-grained measure of national identification* would considerably improve upon

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<sup>2</sup>I dutifully acknowledge that most of the reasons for extended research that I discuss in this subsection are not theoretical but, rather, data-driven and methodological. Not being holier than the Pope, though, to keep the structure of the book consistent I decided to place this subsection into the theoretical section of the chapter.

results of earlier research. Like ethnic identification, national identification is a complex multidimensional construct, and scholars for decades have debated how to adequately measure it (see Cokley 2007; Leszczensky and Gräbs Santiago 2015; Phinney and Ong 2007; Schwartz et al. 2014; Umaña-Taylor et al. 2004). Moreover, single-item measures seem particularly prone to measurement errors, which in turn are especially problematic in longitudinal analysis. An adequate measure of national identification therefore would increase the reliability of findings.

Third, the study I conducted in Chapter 3 was based on classroom friendship networks. These networks consisted of about 20 to 25 students, thus being *relatively small in size*. Larger friendship networks with more actors would increase the statistical power and thereby yield better estimates of both selection and influence mechanisms. This advantage becomes particularly crucial in light of the complex interaction effects that are needed to disentangle the interplay of immigrants' national identification and their friendships with natives.

### 5.2.2 A Reminder Why Immigrants' National Identification May Affect Friendship Choices—And Why Friends May in Turn Influence Immigrants' National Identification

Besides the three rather methodological reasons mentioned above, there is an important *substantive* reason that calls for extended research as well. Before building up the related argument, let us briefly recall why there is reason to believe that immigrants' national identification matters for friendship choices in the first place, and why immigrants' friends might in turn influence their national identification.

Starting with *social influence mechanisms*, in Chapter 3 I proposed that friends might affect immigrants' development of national identification in two ways. Even though there was little evidence in favor of these mechanisms in my earlier chapter, let me briefly recapitulate these arguments.

On the one hand, as suggested by numerous studies, having many *native friends* may generally increase immigrants' national identification (e.g., Agirdag et al. 2011; Sabatier 2008, also see Chapter 2). This argument is in line with identity theory, which postulates that identities are reinforced by friendships with others with whom this identity is enacted (Deaux and Martin 2003; Stryker 1980). Immigrants with many native friends also may be more likely to re-define group boundaries in terms of a common ingroup identity that includes both natives and immigrants, thus resulting in increased identification with the host country (Agirdag et al. 2011; Munniksma et al. 2015).<sup>3</sup>

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<sup>3</sup>Recall from Chapter 4, however, that bright ethnic boundaries may prevent native friends from increasing immigrants' identification with the host country. I will come back to this argument in the discussion.

On the other hand, immigrants may also more generally adjust their own national identification *towards their friends' identifications*, irrespective of how many of these friends are natives. This is because a claimed identity can only be upheld if it is recognized and accepted by significant individuals (Klein et al. 2007; Noels et al. 2010). In particular, identities can be expressed in interaction with friends (Alba 1990), and social approval for a given identity can be gained from friends. Immigrants' therefore may prefer being similar to their friends in terms of identification, regardless of their friends' ethnicity.

Turning to *selection mechanisms*, in Chapter 3 I suggested that immigrants' national identification affects their own friendship choices as well as those of natives. Conceiving of national identification as a system of beliefs that consists of fundamental norms and values (Deaux and Martin 2003; McFarland and Pals 2005: 105; Verkuyten and Martinović 2012), the key argument in fact was relatively similar for both groups.

*Immigrants* who strongly identify with the host country should feel that they have more in common with their native peers than is the case for immigrants with weak national identification. Following the general principle of homophily (McPherson et al. 2001; Smith et al. 2014), this perceived similarity can be expected to result in increased preferences for native friends, for interactions with similar others are more rewarding (see Leszczensky and Pink 2015; Völker et al. 2008: 327). In addition, the common ingroup identity model (Gaertner and Dovidio 2000) suggests that a joint national identification reduces ingroup bias at the subgroup level, thus also expecting higher shares of native friends for immigrants with stronger rather than weaker national identification.

A similar logic applies to *natives*, who may perceive immigrants with strong national identification as being more similar to themselves than immigrants who do not, or only barely, identify with the host country. Immigrants' national identification thus might function as a signal to natives, who, as a consequence, can be expected to prefer immigrants with stronger rather than weaker national identification.

### **5.2.3 How Relative Group Size May Affect Friendship Choices Based on Immigrants' National Identification**

As briefly recapitulated above, immigrants' national identification can be expected both to increase immigrants' preferences for native friends and to make them more attractive as friends to native peers. But while I found the expected effect on natives friendship choices in Chapter 3, contrary to theoretical expectations, immigrants who strongly identified with the host country turned out *not* to be more likely to choose natives as friends than immigrants with weaker national identification. In the discussion in the earlier chapter I offered *relative group size* as a post-hoc explanation for this

surprising finding. I now elaborate on this opportunity structure-related argument.

In Chapter 3, I studied a sample of classroom friendship networks a quarter of which, on average, consisted of immigrant students. In classrooms of 20 to 25 students, this amounts to 4 or 5 immigrants per friendship network. According to Blau (1974), it seems reasonable to assume that students are generally interested in having a couple of friends in class. The numbers mentioned above then imply that, facing such an opportunity structure, most immigrants “had” to befriend natives, since they could not sustain a classroom friendship network consisting of mainly same-ethnicity or even of fellow non-native peers (also see Leszczensky and Pink 2015; Quillian and Campbell 2003).

More generally, in schools with *low shares of immigrants*, immigrants’ host country identification may not affect their tendency to befriend native peers, as the given opportunity structure overlays potential identification-based preferences. This is because if there are many natives and, accordingly, few immigrants in school, even immigrants who barely identify with the host country can hardly avoid befriending some native peers. Natives in such schools, by contrast, can afford to be picky in choosing among the few available immigrant peers. In line with what I found in Chapter 3, if they have the opportunity to avoid befriending immigrants, natives can afford befriending only immigrants with stronger rather than weaker national identification.

In schools with *high shares of immigrants*, immigrants face a vastly different opportunity structure. In such schools, *immigrants* can be very selective in choosing native friends. With the opportunity to avoid befriending native peers, immigrants who do not identify with the host country may in fact rarely befriend native peers. Immigrants who strongly identify with the host country, by contrast, still have the opportunity to satisfy their preference for native friends. Accordingly, in contexts with high shares of immigrants, immigrants’ host country identification should be reflected in their friendship choices.

*Natives* cannot be picky about choosing immigrants in schools in which there are many immigrants; they “have” to befriend some of them (see Blau 1974: 621; also see Smith et al. 2014: 44). But if immigrants make up a large part of the student body, natives have the opportunity to choose *what kind* of immigrants they befriend from the large pool of potential immigrant friends. Therefore, while natives may “have” to befriend some immigrants in schools in which immigrants make up a large part of the student body, they might prefer befriending those with stronger rather than weaker national identification; and there is vast opportunity to do so. Accordingly, immigrants’ national identification should matter for natives’ friendship choices in schools with both high and low shares of immigrants, though for different reasons.

To conclude, in schools with low shares of immigrants, immigrants' national identification should matter for natives' but not for immigrants' own friendship choices. In contrast, in schools with high shares of immigrants, their national identification should affect their own friendship choices as well as those of natives. Natives' preference for immigrants with stronger rather than weaker national identification, by contrast, should *not* depend on relative group size, because natives can convert their identification-based preferences into friendship choices in schools with both low and high shares of immigrants.

## 5.3 Data and Methods

### 5.3.1 Data

I use three waves of data that we collected in our project *Friendship and Identity in School* (FIS, Leszczensky et al. 2015; Leszczensky and Pink 2015).<sup>4</sup> FIS is a longitudinal study of grade-level friendship networks in the German federal state of North Rhine-Westphalia. The overarching aim of the project is to examine the mechanisms underlying the formation and change of adolescents' social networks and their ethnic and national identities. For this purpose, in a first step we developed and tested a measurement of ethnic and national identities that I describe below (Leszczensky and Gräbs Santiago 2014a,b, 2015). In a second step, we applied this measurement to a sample of more than 2,000 children and adolescents, building a network panel-survey comprising all students in all classrooms of the 5th, 6th, and 7th grades from nine schools in North Rhine-Westphalia.

We targeted lower secondary, intermediate secondary, and comprehensive schools with higher shares of foreign students. We randomly chose nine schools within predefined strata regarding different numbers of foreign students.<sup>5</sup> Although the school response rate was only about 10%, probably due to increasing numbers of inquiries by researchers in recent years, our data allow replication of common findings of previous studies with higher response rates and larger samples (Leszczensky and Pink 2015). Investigating the mechanisms underlying the formation and change of friendship networks and

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<sup>4</sup>The project is funded by the German Research Foundation (DFG). Further information on the project is given in the field report on Wave 1, Wave 2, and Wave 3 (Leszczensky et al. 2015) and the projects' website at <http://www.mzes.uni-mannheim.de/d7/en/projects/friendship-and-identity-in-school>, accessed on February 5, 2016.

<sup>5</sup>The nine schools belong to three strata with different ethnic compositions. For each stratum, we sampled one lower secondary school, one intermediate secondary school, and one comprehensive school. Based on federal registers, we defined the strata as follows: (1) 10–15% of students hold Turkish citizenship; (2) more than 15% of students hold Turkish citizenship; (3) less than 10% of students hold non-German citizenship and less than 5% of students hold Turkish citizenship. Further information on sampling is given in Leszczensky et al. (2015).



immigrants' national identification also does not require a representative sample of schools. In fact, one might even argue that do so is *only* possible in a targeted sample, because many friendship networks obtained by a representative sample of schools would contain few immigrants and therefore not provide enough information to conduct meaningful social network analysis of the relation between immigrants' identification and their friendship choices (also see Leszczensky et al. 2015).

At each participating school, we surveyed all students from all classes of the 5th, 6th, and 7th grades. This procedure resulted in 26 grade-level networks, most of which consisted of three or four classrooms. In the first wave an average of 26.4 ( $SD = 4$ ) students shared a classroom, and 85.2 ( $SD = 29.9$ ) shared a grade. Students' participation in the study was voluntary but required written parental approval. Supervised and instructed by our research team beforehand, participating students filled out paper-and-pencil questionnaires during two lessons in school.

The intervals between panel waves were nine months each. Wave 1 was collected in May 2013, Wave 2 in February 2014, and Wave 3 in November 2014. Students' overall participation rate was 76.5% in Wave 1, 83.3% in Wave 2, and 86.6% in Wave 3. Students were about 13 years old in the first wave ( $M = 12.8$ ;  $SD = 1.1$ ), and almost two thirds of them had a migration background, i.e., they or at least one of their parents were born outside of Germany. This percentage lies far above the national German average of about one third of immigrants in this age group (Statistisches Bundesamt 2014: 82).

For the analysis, I excluded grades with participation rates of less than 77% in any wave. In an earlier study based on FIS (Leszczensky and Pink 2015), we empirically identified this threshold as providing the best trade-off between conventionally accepted shares of unit non-response in social network analysis and the amount of information that is required to conduct meaningful statistical network analyses (also see Cillessen 2009; Huisman and Steglich 2008; Kossinets 2006). I further excluded one network in which estimates converged but yielded unreasonably large standard errors in the influence part of the model.<sup>6</sup> The following analyses therefore are based on 10 grade-level networks in which a total of 1,059 students participated in either wave. Immigrants make up 63.9% of the networks I analyze.

### Key Advantages of FIS that Merit a Robustness Test

Above, I recognized three specific data-related limitations of my study in Chapter 3 that call for extended research on the interplay of immigrants'

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<sup>6</sup>The influence part of the model is generally more difficult to estimate, for there is less statistical power to detect respective effects than there is in the selection part (Snijders et al. 2010: 55). Note, though, that the substantive findings of my analysis do not change if I include this network in the meta-analysis.

national identification and their friendships with natives. At the risk of being overly redundant, let me briefly point out how the FIS data meet this call.

First, the FIS data enable me to examine potential social influence processes over *a longer period of time using more points of observation*. For example, in Chapter 3 I used two waves of data that comprised a time span of one year in total. The FIS data, by contrast, includes three points of observation covering a time period of 18 months, thus providing more information and leverage to detect social influence processes.

Second, the FIS data employ a carefully developed and extensively tested multi-item *measure of national identification* (Leszczensky and Gräbs Santiago 2014a,b, 2015). As I will explain in more detail below, this measurement is more adequate than those used in earlier studies, including the ones I conducted in the preceding chapters of this book. Findings based on the FIS data therefore arguably are more reliable than those of earlier studies.

Third, FIS collected grade-level networks that are much *larger in size* than the classroom-level networks I relied on in Chapter 3. Whereas the latter one consisted of 20 to 25 students, the grade-level networks contain more than 100 students. These larger friendship networks provide enough statistical power to estimate the interaction effects that are necessary to test the hypothesized selection and influence mechanisms.

### 5.3.2 Variables

***Immigrants and natives*** I coded students' ethnic background based on information they provided on their own country of birth as well as on those of their parents. Following my analysis in Chapter 3, I defined students as *native* German if they and both of their parents were born in Germany. Students who themselves were born abroad or who had at least one parent born abroad, by contrast, I coded as *immigrants*.

***Friendship networks and friendships between immigrants and natives*** Friendship networks were obtained by in each wave asking students to write down up to ten of their best friends in their grade. Students could choose their friends from a roster that, separated visually by classrooms, listed all their schoolmates from their own grade alphabetically by first name. Students who did not fill out the questionnaire could still be nominated so that their ingoing friendships were still recorded.

***Classroom*** Within grades, students attend different classrooms. Students meet regularly in class, and most friendships within grade-level networks are actually formed between students within the same classroom (Leszczensky and Pink 2015). I therefore add a dyadic covariate *same classroom*, which I coded 1 if a pair of students attended the same classroom, and 0 otherwise.

**Sex** I control for sex to account for adolescents' preferences for same-sex friends. Sex was coded 1 for boys and 0 for girls.

**National identification** I measure national identification using the subscale of the emotional dimension of the national identity measure we developed for FIS. This subscale assesses how strongly students felt attached to Germany (Leszczensky and Gräbs Santiago 2015). More generally, this emotional dimension captures the affective commitment to a group, and is often considered to be the most important dimension of identity (Phinney and Ong 2007), because it is the one most consequential for individual behavior and ingroup bias (Ashmore et al. 2004; Ellemers et al. 1999; Jackson 2002).

The development of our measure drew on American social-psychological measures such as the *Multigroup Ethnic Identity Measure—Revised* (Phinney and Ong 2007) and the *Ethnic Identity Scale* (Umaña-Taylor et al. 2004). After selecting appropriate items, we first conducted cognitive interviews to evaluate whether and how children and youths of different age groups and ethnic backgrounds understand and answer the respective items (Leszczensky 2012). Successful items were further tested in a primary study (Leszczensky and Pink 2013). Based on Wave 1 of FIS, using confirmatory factor analyses we showed the equivalence of our measurement for native and immigrant students, for different immigrant generations, and across age-groups ranging from 9 to 17 years (Leszczensky and Gräbs Santiago 2014a, 2015). Comprehensive information on the development and testing of the measure is given in Leszczensky and Gräbs Santiago (2015).<sup>7</sup>

National identification was assessed by calculating the mean value of students' answers to four items, given on a five-point scale from 1 "applies absolutely not" to 5 "applies very strongly". The four items were: "It bothers me if somebody speaks ill about Germany", "Germany is dear to me", "I feel strongly attached to Germans", and "I feel like I am part of Germany". The resulting scale is highly reliable, with Cronbach's  $\alpha$  being .85; and this reliability equally holds for natives and immigrants of the first, second, and third generations (Leszczensky and Gräbs Santiago 2015). Providing evidence of construct validity, the subscale further correlated strongly with indicators of the social and cultural integration of immigrant children and youths. Our proposed measure therefore offers an adequate instrument for capturing immigrants' national identification that considerably improves upon measurements used in the earlier chapters of this book and in other prior research (e.g., Munniksma et al. 2015).

<sup>7</sup>The measure is available via the GESIS collection of items and scales for the social sciences (ZIS, Leszczensky and Gräbs Santiago 2014b). See <http://zis.gesis.org/ZisApplication/title/Ethnische%20und%20nationale%20Identit%C3%A4t%20von%20Kindern%20und%20Jugendlichen>, accessed February 6, 2016.

### 5.3.3 Analytical Strategy

Like in Chapter 3, I use stochastic actor-oriented models for the co-evolution of networks and behavior (SAOM, Snijders 2001, 2005; Snijders et al. 2010; Steglich et al. 2010). SAOM can be regarded as agent-based simulation models that are well suited for examining the mechanisms underlying the association between friendships and identification. For starters, SAOM allow controlling for network-endogenous tie-generating mechanisms, such as reciprocity and transitive closure. Even more importantly, as I demonstrated in the earlier chapter, SAOM provide the statistical means to disentangle selection from influence mechanisms by simultaneously modeling the co-evolution of networks and individual characteristics (Steglich et al. 2010). The heart of SAOM is the so-called *objective function*, which represents tie formation tendencies in the network. The objective function consists of a linear combination of a set of components that are called effects, and these effects can be viewed as representing rules for network behavior, i.e., actors' preferences (Snijders et al. 2010: 47).

My first aim is to provide a robustness test of my analysis of Chapter 3. For this purpose, I estimate the same model specification using newly collected data. In contrast to the analysis of Chapter 3, however, in the current chapter I conducted a *meta-analysis* rather than a so-called multi-group option (Ripley et al. 2015). This approach consists of two steps. In a first step, using `RSiena` 1.1 (Ripley et al. 2015) I *separately* analyzed the co-evolution of all ten grade-level friendship networks and immigrants' national identification over the three waves.<sup>8</sup> Doing so is possible because unlike the classroom-level networks I analyzed in Chapter 3, the grade-level networks obtained by FIS comprise enough students to estimate complex interaction effects. Missing values for individual attributes and friendship ties were treated as non-informative in the estimation process (Huisman and Steglich 2008). I further turned off centering of covariates in order to ease calculations of predicted values of the objective function. I applied the method of joiners and leavers suggested by Huisman and Snijders (2003) to account for students who entered or left the network between waves, for example due to change of school. All separate models reached convergence, i.e., all t-ratios for convergence were smaller than 0.1 in absolute value, and all overall maximum convergence ratios were smaller than 0.25 (Ripley et al. 2015).

In the second step, I combined the separate results for the ten grade-level networks in a meta-analysis using the R package `mvmeta` (Gasparrini et al. 2012). For two reasons, I used a *multi-variate fixed-effects meta-analysis* instead of the method suggested by Snijders and Baerveldt (2003). First, in

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<sup>8</sup>This work was performed on the computational resource bwUniCluster funded by the Ministry of Science, Research and the Arts Baden-Württemberg and the Universities of the State of Baden-Württemberg, Germany, within the framework program bwHPC.

contrast to univariate meta-analysis a *multivariate* meta-analysis accounts for within-network correlations in the estimated parameters (An 2015). While earlier univariate meta-analyses of networks assumed correlations between covariates to be zero, a multivariate meta-analysis utilizes the covariance matrix of the estimated parameters in the network models to estimate their underlying effects in the meta-analysis. This covariance matrix further is necessary to assess the uncertainty of linear combinations (Pink et al. 2016). Second, I employed a *fixed-effects* rather than a random-effects meta-analysis. The goal of a fixed-effects meta-analysis is to make a *conditional inference* only about the number of studies, or in my case networks, included in the meta-analysis (Hedges and Vevea 1998).<sup>9</sup> In other words, I do not claim to make inferences about a general population of networks but rather restrict myself to the ten grade-level networks under study. This approach is reasonable given that the number of observed grade-level networks is rather small and that these are quite homogenous (Borenstein et al. 2009: 83; Pink et al. 2016). That is, the observed grade-level networks were sampled in the same region and surveyed using the same questionnaire with the same researchers carrying out the survey.

My second aim is to test my argument about the role of relative group size for how immigrants' national identification affects both their own friendship choices and those of natives. To test my respective hypotheses I conducted a multivariate fixed-effects *meta-regression* (An 2015; Borenstein et al. 2009). In the meta-regression, I exploited the fact that the share of immigrant students in the ten grade-level networks varied between almost 50% to more than 80%, which enabled me to estimate whether immigrants' and natives' friendship choices were affected by relative group size. Estimating a fixed-effects meta-regression is warranted since I assume that the networks under study are identical on all factors except for the share of immigrant students (Borenstein et al. 2009: 193ff.), which I model in the meta-regression. Using the results obtained by the meta-regression, I can predict how the effect of immigrants' national identification on their own and natives' friendship choices differs with respect to varying ethnic composition.

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<sup>9</sup>In a *random-effects* meta analysis, by contrast, researchers have to define a superpopulation of which their observed studies are a random draw. As noted by Hedges and Vevea (1998), this critical assumption is almost never justified in practice. In my case, it certainly isn't. For one thing, generalization to a superpopulation is hardly feasible with ten observed networks, especially considering that the school response rate was about 10%. For another, FIS targeted schools that met quite specific criteria that we deemed made them adequate for studying the relation between immigrants' friendships networks and their national identification (Leszczensky et al. 2015). A random-effects meta-analysis based on the FIS data therefore would claim to make inference about all 5th, 6th, and 7th grades of lower secondary, intermediate secondary, and comprehensive schools with neatly defined shares of foreign students in the federal state of North Rhine-Westphalia that were sized between 45 and 120 students. I do not believe that inference about such a specific subgroup of networks is reasonable.

### 5.3.4 Model Specification

Given that I conduct a robustness test with different data (Clemens 2015), the model specification is precisely the same as that in Chapter 3. That is, for each of the ten grade-level networks I estimated one SAOM that jointly tests various selection and influence hypotheses, thus controlling for both directions of causality as well as for competing structural and proximity tie-generating mechanisms.

**Selection part** In the selection part of the model I control for basic *structural effects* that account for well-known patterns of adolescents' friendship networks that need to be controlled to avoid bias in the estimation of other effects (Snijders 2001; Snijders et al. 2010). First, an *outdegree* effect captures how many friends students nominated on average. Second, a *reciprocity* effect assesses to what degree students reciprocated friendship choices. Third, I included a *transitive triplets* effect to acknowledge the tendency that friends become friends of friends. I also added ego, alter, and same-*sex* effects to control for a preference for same-sex friends, which is crucial in adolescents' friendship networks (e.g., Block and Grund 2014; Leszczensky and Pink 2015; Smith et al. 2014; Stark and Flache 2012; Vermeij et al. 2009).

Mirroring my analysis in Chapter 3, I address immigrants' and natives' friendship choices with two respective three-way interaction effects. Considering *immigrants' friendship choices*, I express the role of their own national identification in befriending natives as the following three-way interaction:

$$\text{Immigrant}_{\text{Ego}} * \text{Native}_{\text{Alter}} * \text{National Identification}_{\text{Ego}}$$

By also adding all constitutive terms of this three-way interaction to the model (e.g.,  $\text{Immigrant}_{\text{Ego}}$  or  $\text{Native}_{\text{Alter}} * \text{National Identification}_{\text{Ego}}$ ), as in Chapter 3 I can then compare the degree to which immigrants' national identification affected their tendency of choosing natives as friends.

As we have seen in Chapter 3, estimating the impact of immigrants' national identification on *natives' friendship choices* is not straightforward. This is because testing whether natives' preference for befriending immigrants depends on immigrants' national identification would require adding a respective three-way interaction similar to that for immigrants' friendship choices depicted above. This three-way-interaction, however, would require me to include the main effect  $\text{Native}_{\text{Ego}}$  as well, which is perfectly collinear with the  $\text{Immigrant}_{\text{Ego}}$  effect that is already part of the model. The same logic applies to the  $\text{Immigrant}_{\text{Alter}}$  effect, which mirrors the  $\text{Native}_{\text{Alter}}$  effect. I therefore account for natives' friendship choices by adding the following three-way interaction to the model:

$$\text{Immigrant}_{\text{Ego}} * \text{Native}_{\text{Alter}} * \text{National Identification}_{\text{Alter}}$$

Two of the constitutive terms of this three-way-interaction ( $\text{Immigrant}_{\text{Ego}}$  and  $\text{Native}_{\text{Alter}}$ ) are already part of the model. I included the further additional interaction terms of the model (e.g., the two-way interactions such as  $\text{Immigrant}_{\text{Ego}} * \text{National Identification}_{\text{Alter}}$ ). In this set-up, the role of immigrants' national identification in their being selected as friends by native peers is directly expressed by the  $\text{National Identification}_{\text{Alter}}$  effect. The reason is that due to the three-way-interaction depicted above this effect is conditional on ego *not* being an immigrant and alter *not* being a native; the  $\text{National Identification}_{\text{Alter}}$  effect therefore captures the tendency of natives to befriend immigrants dependent on how strongly these immigrants identify with the host country.

***Influence part*** The *influence part* of the model includes a *linear tendency* effect, which reflects the general tendency to have high values on the national identification scale. The same effect squared assesses whether further increases or decreases in national identification depend on the variable itself, thus capturing tendencies of polarization.

The two possible social influence hypotheses are tested as follows. First, to test whether having more native friends increased immigrants' national identification I added an interaction effect between the  $\text{Immigrant}_{\text{Ego}}$  and the so-called AvAlt effect, which captures the share of native friends:

$$\text{Immigrant}_{\text{Ego}} * \text{AvAltNative}$$

I again included all constitutive terms of the interaction effect, i.e., the  $\text{Immigrant}_{\text{Ego}}$  and the AvAltNative effects (Ripley et al. 2015).

Second, to test whether immigrants adjusted their own identification towards that of their friends I added an interaction between the  $\text{Immigrant}_{\text{Ego}}$  and the total similarity effect, the latter of which accounts for preferences for being similar in identification to that of one's friends (Ripley et al. 2015):

$$\text{Immigrant}_{\text{Ego}} * \text{totSimNational Identification}$$

This interaction effect accordingly tests whether immigrants generally adjust their own national identification towards the national identification of their friends. I again also added the main effect of friends' total similarity to the model.

## 5.4 Results

### 5.4.1 Descriptive Statistics

Table 5.1 provides an overview of the central characteristics of the 10 grade-level networks under study. The average percentage of immigrants in these grades was quite high, with almost two out of three students having a

**Table 5.1:** *Description of the Grade-Level Networks and Mean Values of Immigrant Students' National Identification over Time*

Grade	Students (W1)	Immigrants (W1)	Jaccard Index W1→W2	Jaccard Index W2→W3	Immigrants' National Identification Wave 1	Immigrants' National Identification Wave 2	Immigrants' National Identification Wave 3
1	83	80.1%	0.40	0.38	2.98	2.61	2.37
2	74	50.1%	0.42	0.38	3.32	3.33	3.39
3	72	49.3%	0.33	0.38	3.06	3.05	2.40
4	93	83.5%	0.32	0.46	2.82	2.78	3.02
5	120	66.7%	0.38	0.41	2.82	2.74	2.35
6	138	48.9%	0.37	0.34	3.43	3.45	3.20
7	126	55.7%	0.44	0.44	3.08	2.67	2.60
8	121	77.2%	0.41	0.40	3.48	3.36	3.06
9	119	64.1%	0.39	0.42	2.96	2.93	2.90
10	113	63.6%	0.39	0.42	3.27	2.75	2.86
All	105.9	63.9%	0.38	0.40	3.12	2.95	2.80

Source: Friendship and Identity in School.



migration background. Even in the networks with the lowest proportions of immigrants, almost every other student was of immigrant background; in the networks with the highest shares of immigrants, only one out of five students was of native origin.

The Jaccard index, which reflects how much the network changed between waves, was greater than 0.3 at all ten grade-level networks for all points in time. These numbers indicate that all of the networks provided a reasonable amount of change to apply SAOM (Snijders et al. 2010).<sup>10</sup>

Last but not least, immigrants identified moderately with Germany, as expressed by mean values of national identification scattering around the mid-point of the five-point scale. On average, immigrants' national identification slightly declined over the three waves. While there was some variation in immigrants' national identification between grades, no evident pattern is visible concerning the share of immigrants.

Table 5.2 contains mean values of immigrants' and natives' national identification as well as their shares of native friends over time. At all three points in time, immigrant students identified less strongly than their native peers, which is consistent both with what we know from earlier studies (e.g., Elkins and Sides 2007; Reeskens and Wright 2014; Staerklé et al. 2010) and with what we saw in the earlier chapters of this book. The percentage of native friends remained relatively stable over the three waves of study. Unsurprisingly, native students had more native friends than did immigrant students. Reflecting the high shares of immigrants in the grade-level networks, immigrants had considerably fewer native friends than in the Dutch data set I used in Chapter 3, in which natives constituted the solid majority of the student body.

**Table 5.2:** Mean Values of Immigrants' and Natives' National Identification and Percentage of Native Friends of Immigrants and Natives over Time ( $n = 1,059$ )

	Wave 1	Wave 2	Wave 3
<i>National identification</i>			
Immigrants	3.12 (1.10)	2.95 (1.14)	2.80 (1.17)
Natives	3.59 (1.06)	3.45 (1.00)	3.34 (1.10)
<i>Native friends</i>			
Immigrants	30.93 (27.77)	32.02 (28.42)	31.79 (27.20)
Natives	57.73 (27.47)	56.62 (27.74)	54.85 (27.98)

Standard deviation in parentheses.

Source: Friendship and Identity in School.

<sup>10</sup>The Jaccard index is defined as  $\frac{N_{11}}{N_{11} + N_{01} + N_{10}}$ , where  $N_{11}$  is the number of ties that exist in both waves,  $N_{01}$  is the number of newly initiated ties, and  $N_{10}$  is the number of dissolved ties (Snijders et al. 2010: 49).

**Figure 5.1:** *The Relation between Immigrants' National Identification and the Share of Native Friends over Time ( $n = 322$ )*

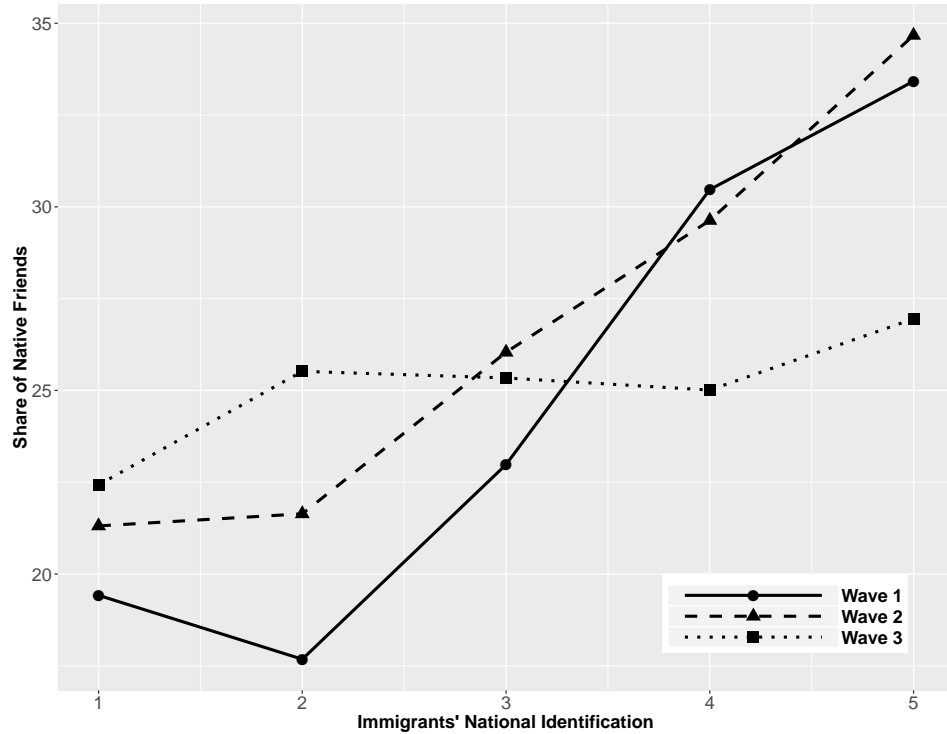


Figure 5.1 illustrates the relation between immigrants' national identification and their native friends for those immigrant students who provided information in all three waves. On average, immigrants who identified more strongly with the host country also had more native friends. In the first wave, for instance, only one out of five friends of immigrants who did not at all identify with the host country was a native. Immigrants who identified very strongly with the host country, by contrast, had more than one third native friends. This pattern was similar in the second wave, though less clear in the third one. In general, the observed pattern resembles the one established by earlier studies (e.g., Agirdag et al. 2011; Phinney et al. 2006, also see Chapter 3).

#### 5.4.2 Analyzing the Relation between Immigrants' National Identification and Their Friends

Table 5.3 presents the results of the multivariate fixed-effects meta-analysis of the stochastic actor-oriented models of the ten-grade level networks. I first discuss social influence mechanisms, as these are easier to access and I did not had a hypothesis about variation regarding relative group size.

**Table 5.3:** *Model of Friendship Selection from the Perspective of Both Immigrants and Natives while Controlling for Influence Mechanisms: Estimates and Standard Errors of Multivariate Fixed-Effects Meta-analysis of SAOM (10 grades,  $n = 1,059$  students)*

Effect	par.	(s.e.)
<b>Network dynamics</b>		
<i>Structural effects</i>		
Outdegree	-2.49***	(0.03)
Reciprocity	1.03***	(0.04)
Transitive triplets	0.21***	(0.00)
<i>Control variables</i>		
Same classroom	0.70 ***	(0.02)
Sex ego	-0.12***	(0.03)
Sex alter	0.05*	(0.03)
Same sex	0.51***	(0.02)
<i>The Role of National identification</i>		
Immigrant ego	0.21***	(0.03)
Native alter	0.17***	(0.04)
National identification ego	0.07	(0.04)
National identification alter	-0.03	(0.03)
Immigrant ego x native alter	-0.37***	(0.05)
Immigrant ego x national identification ego	-0.05	(0.04)
Native alter x national identification ego	-0.03	(0.05)
Immigrant ego x national identification alter	0.04	(0.04)
Native alter x national identification alter	-0.03	(0.05)
Immigrant ego x native alter x national identification ego	0.09	(0.06)
Immigrant ego x native alter x national identification alter	-0.08	(0.06)
<b>National identification dynamics</b>		
<i>Tendency effects</i>		
National identification linear shape	0.04	(0.18)
National identification quadratic shape	0.01	(0.04)
<i>The role of native friends</i>		
Immigrant	-0.24	(0.19)
Native friends	-0.04	(0.33)
Immigrant x native friends	0.01	(0.39)
<i>The role of similarity in national identification</i>		
National identification total similarity	0.21*	(0.11)
Immigrant x national identification total similarity	0.02	(0.10)

†  $p < 0.1$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Covariates are not centered. Estimation algorithms for all models converged.

Source: Friendship and Identity in School.

In short, there is no empirical support for either one of the two hypothesized *social influence* mechanisms. To begin with, there is no evidence that immigrants' national identification was increased by *having many native friends*. To understand this role of native friends, we have to sum up the coefficients of the interaction effect between being an immigrant and the proportion of one's native friends (Immigrant \* native friends) on the one hand, and the two respective main effects on the other. The resulting effect is small and negative, thus indicating that—as in Chapter 3—immigrants' national identification did *not* increase if they had many native friends.<sup>11</sup>

With respect to the second alleged influence mechanism, there is no evidence that immigrants *adjusted their own national identification towards that of their friends* either. The national identification total similarity effect is positive and significant, but because of the interaction between this effect and that of being an immigrant, this coefficient reflects that *natives* preferred being similar to their friends in terms of their national identification. To see whether this was also true for *immigrants*, however, we again have to add the respective constitutive effects to the interaction effect. As the interaction effect itself is virtually zero and the immigrant effect is negative and roughly equal in size to the total similarity effect, we have to conclude that immigrants did not adjust their own identification towards that of their friends. This result again is consistent with what I found in Chapter 3.

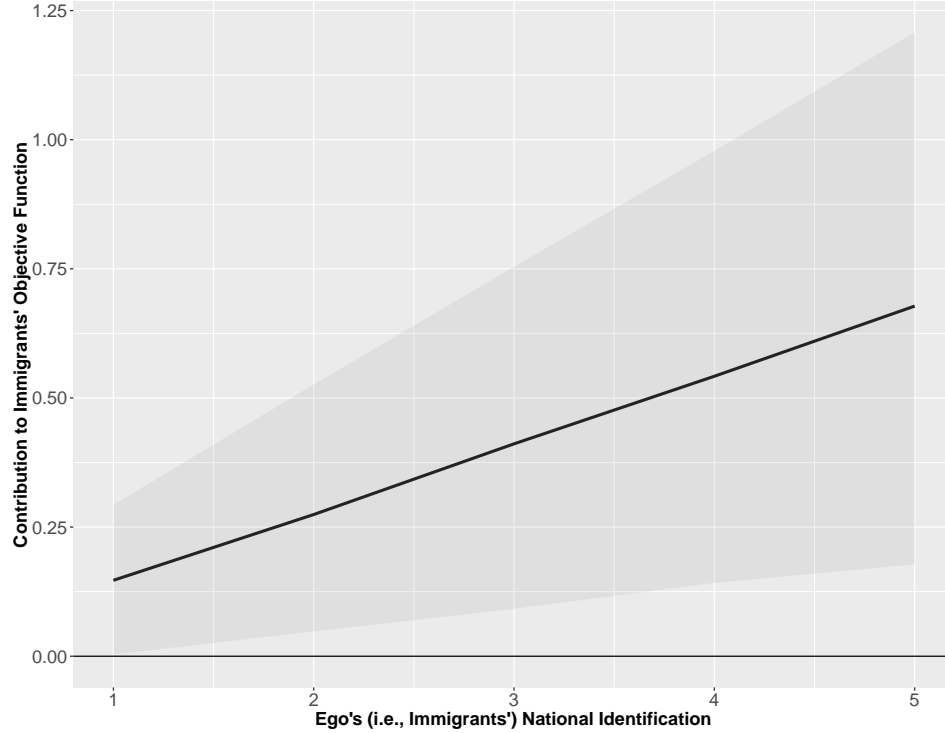
Turning to the *selection* part of the model, notice in *Table 5.3* that we observe common patterns in adolescents' friendship networks. For example, students showed a tendency towards reciprocating friendship invitations, friends of friends became friends, and friendships were mostly formed between students of the same sex. Friendships further were more often formed within than between classrooms, which is in line with what we know from earlier research on grade-level friendship networks (Leszczensky and Pink 2015).

But did immigrants' national identification increase *immigrants' preferences for native friends*? To assess this, we have to consider the three-way interaction Immigrant<sub>Ego</sub> \* Native<sub>Alter</sub> \* National Identification<sub>Ego</sub> together with the constitutive effects of ego being an immigrant, alter being a native, ego's national identification, and the three respective two-way interactions. It makes little sense to look at all of the respective coefficients in the table, as they reflect complex multiplicative relations that can better be displayed graphically. *Figure 5.2* therefore plots the joint contribution of these effects on immigrants' objective function for different values of national identification. Like in Chapter 3, I simulated estimators by 1,000 draws from the multivariate normal distribution, which enabled me to calculate 95 percent confidence intervals (King et al. 2000).

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<sup>11</sup>Given what we know from Chapter 4, this result actually is not too surprising, for the FIS sample mainly consists of Turkish immigrants for whom the ethnic boundary between themselves and natives is bright.

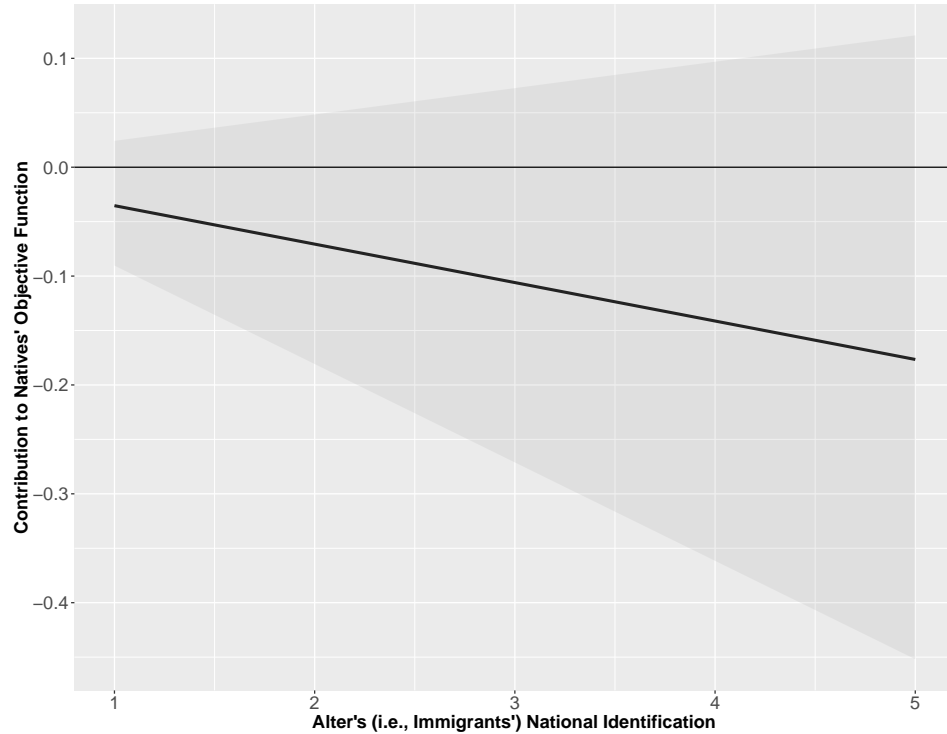
**Figure 5.2:** *Selection from the Perspective of Immigrants. (The Dark Gray Area Shows a 95 Percent Confidence Interval.)*



As the graph reveals, immigrant students with increasing levels of national identification were more eager to befriend native peers. The mean of the slope was positive (0.53), as was the lower bound of the 95 percent confidence interval (.14). Recall that SAOM are agent-based simulation models of the network evolution in which individual actors in so-called microsteps repeatedly choose which actors they befriend. Accordingly, the graph shows that if in these simulated microsteps immigrant actors faced the choice of befriending native actors, those who identified more strongly with the host country were more likely to do so than those with weaker identification. In line with my theoretical expectation, in the ethnically highly diverse observed grade-level networks, immigrants who identified strongly with the host country thus displayed a greater tendency to befriend natives than did immigrants who identified less strongly.

To see whether there also was an increased *preference of native students* to befriend immigrants who identified more strongly with the host country, we have to consider the  $\text{National Identification}_{\text{Alter}}$  effect in *Table 5.3*. This is because this effect is *not* the unconditional main effect but, because of the included interaction effects, instead reflects the effect of alter's national identification if, and only if, ego is a native and alter is an immigrant—which is precisely what we are interested in. The effect is negative but not

**Figure 5.3:** *Selection from the Perspective of Natives. (The Dark Gray Area Shows a 95 Percent Confidence Interval.)*



statistically significant. To illustrate the relation, I still also plotted the contribution of this effect to native students' objective function.

Figure 5.3 confirms that immigrants' with stronger national identification were not more likely to be nominated as friends than were immigrants with weaker national identification. While the mean of the slope was slightly negative ( $-.14$ ), this tendency was not statistically different from zero, as indicated by the lower and the upper bound of the 95 percent confidence interval ( $-.35$  and  $.10$ , respectively). Again, in the logic of SAOM, this finding means that when within microsteps natives faced the choice of befriending immigrants, their tendency to do so did not depend on the strength of these immigrants' national identification. Contrary to my theoretical expectation, whether or not natives befriended immigrants thus did not depend on how strongly immigrants identified with the host country.

How do the results of the current chapter compare with those of Chapter 3, in which immigrants made up roughly a quarter rather than two thirds of the student body? In that sample, immigrants' national identification did *not* matter for their own friendship choices, but it did so for those of natives. The pattern thus was precisely the *opposite* of what we have just seen for the immigrant-dominated grades under study. In schools with an immigrant majority, immigrants' national identification therefore did affect their own

friendship choices but not those of natives. The key question then is whether this pattern can really be explained by opportunity structure in terms of relative group size.

### 5.4.3 Does Relative Group Size Matter?

Does relative group size determine the degree to which immigrants' national identification affects their friendship choices? This question can be addressed by a *meta-regression* that includes the *share of immigrant students* as a predictor at the grade-level. Based on the results of such a fixed-effects meta-regression, I calculated predicted values for four different shares of immigrants: 50%, 60%, 70%, and 80%.<sup>12</sup> Comparing the resulting scenarios gives us an impression of how relative group size was related to friendship choices. When interpreting the results, however, we have to bear in mind that the meta-regression is based on ten grade-level networks, which provides limited power to assess the role of opportunity structure. The following results therefore have to be interpreted with caution, hinting at possible associations rather than providing rock-solid evidence.

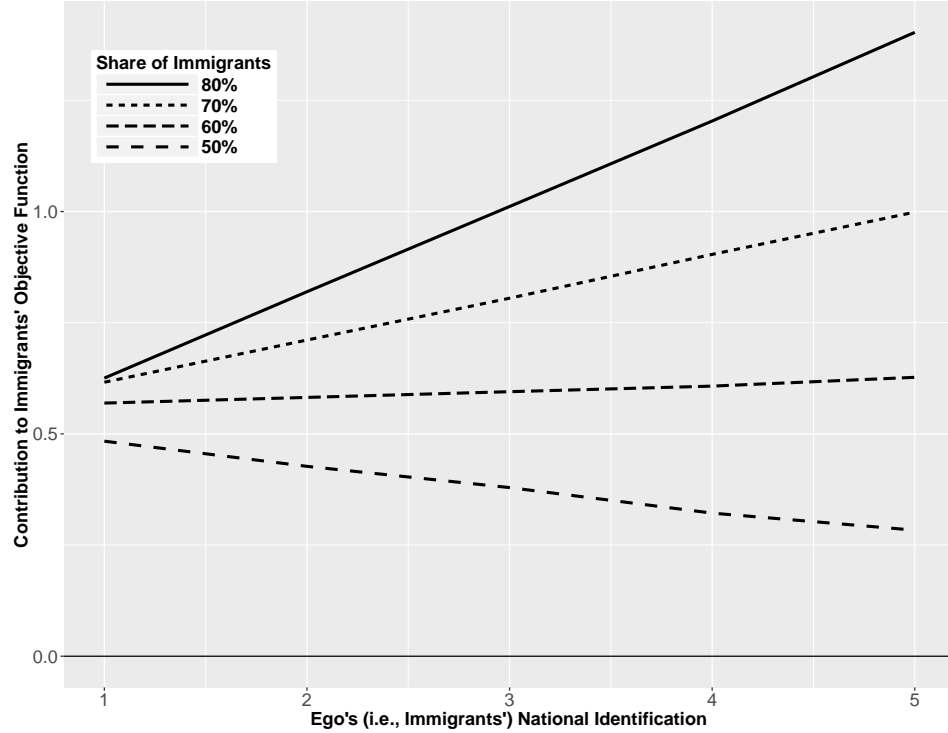
*Figure 5.4* illustrates how the share of immigrants was related to *immigrants' friendship choices* by plotting what happens when shares of immigrant students vary. In grades consisting of 50% or 60% immigrants, immigrants' national identification did not seem to matter for their interethnic friendship choices, as the respective slopes are quite flat. If immigrants made up 70% or 80% of a grade, by contrast, those with stronger rather than weaker national identification indeed seemed to have been more likely to befriend natives, as indicated by the positive slope. By tendency, this finding is in line with my hypothesis that immigrants' national identification particularly matters for their friendship choices in schools with high shares of immigrants. The result further is broadly consistent with the finding in Chapter 3, in which immigrants' national identification did not affect their friendship choices in a sample in which they constituted the minority group.

*Figure 5.5* depicts the role of relative group size for *natives' friendship choices*. Somewhat surprisingly, in grades with a share of 50% immigrants, natives seemed to prefer befriending immigrants' with weaker rather than stronger national identification. If the share of immigrants was 60% or 70%, by contrast, immigrants' national identification did not seem to matter at all for natives' friendship choices. If a grade consisted of 80% immigrants, however, the few remaining native students indeed seemed to prefer befriending

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<sup>12</sup>These four shares of immigrant students encompass what was actually *empirically* observed in the FIS data. In principle, assuming that the relation between the share of immigrants and identification-based friendship choices is linear, I could also predict what would happen in scenarios that were not covered by the data, like shares of 30% or 90% immigrants. One might contend, though, that these predictions would be less accurate for such hypothetical scenarios than for those that were actually covered by the data.

**Figure 5.4:** *Selection from the Perspective of Immigrants in Schools with Varying Shares of Immigrants. Predicted Values from a Fixed-Effects Meta-Regression.*



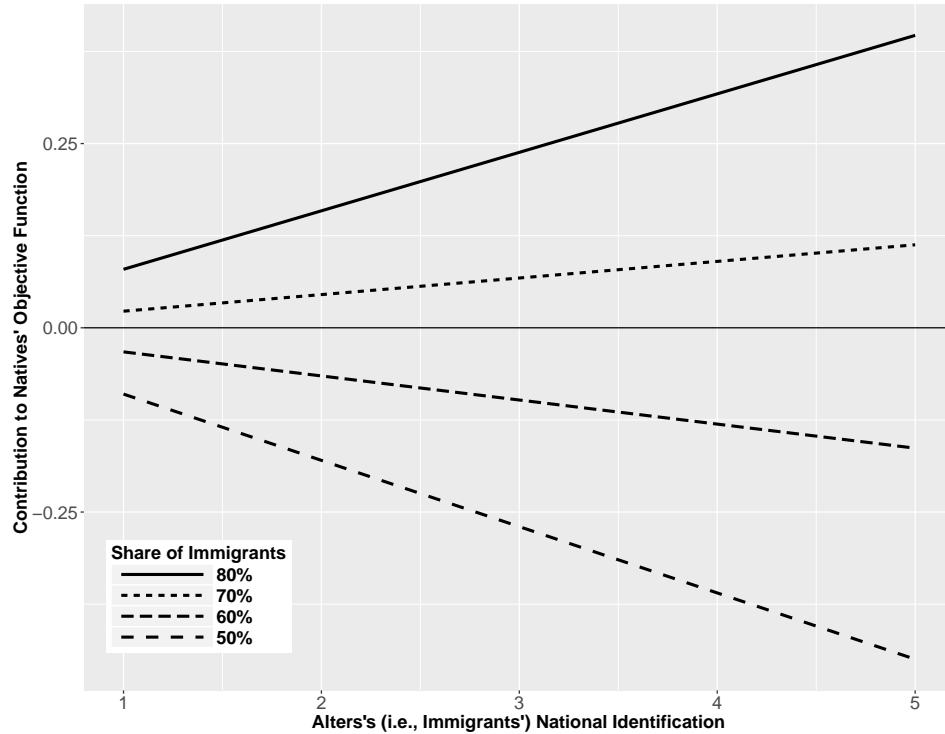
immigrants with stronger rather than weaker national identification. Given the limited number of observed networks, these results have to be taken with a grain of salt. Still, by tendency, this result contradicts the strong effect of immigrants' national identification on natives' friendship choices that I found in the native-dominated sample in Chapter 3. The finding also does not support the hypothesis that immigrants' national identification matters for native friendship choices in schools with both low and high shares of immigrants. In fact, immigrants with stronger rather than weaker national identification only seemed to have been more likely to be selected as friends by natives in schools in which immigrants made up the vast majority of the student body.

## 5.5 Conclusion and Discussion

In this chapter I pursued two goals. On the one hand, I reassessed the findings of my earlier study in Chapter 3 by providing a *robustness test* using newly collected data. Putting together the results of both studies increases our knowledge about how the relation between immigrants' national identification and their friendships with natives emerges. On the other hand, I attempted to *explain* why, contrary to theoretical reasoning, immigrants'



**Figure 5.5:** *Selection from the Perspective of Natives in Schools with Varying Shares of Immigrants. Predicted Values from a Fixed-Effects Meta-Regression.*



national identification turned out *not* to affect their friendship choices in the earlier chapter. Proposing and testing a respective argument about the role of opportunity structure, I think, helps us to better understand what is going on.

Reproducing empirical studies is a necessary—yet often underappreciated—task for (social) scientific inquiry (Freese 2007; King 1995). In the current chapter, I conducted a robustness test, which means that I applied the *same* model specification to *different* data (Clemens 2015). For this purpose, I relied on the newly collected FIS data that were specifically designed to study the interplay of interethnic friendships and national identification (Leszczensky et al. 2015). The FIS data in three ways improve upon the study in Chapter 3 as well as other related studies (Munniksma et al. 2015; Rutland et al. 2012). First, they contained more points of observation that covered a longer period of time. In combination, this increased amount of collected information provides more leverage to identify potential selection and, especially, social influence mechanisms. Second, the FIS data employed a carefully developed and extensively tested multi-item measure of national identification (Leszczensky and Gräbs Santiago 2015). Such a measure constitutes a significant improvement over earlier studies by making findings more reliable than those based on single-item measures of identification. Third,

FIS surveyed grade-level friendship networks that consisted of a comparatively large number of actors (Leszczensky and Pink 2015). These larger networks exhibit more power to estimate the complex interaction effects that are necessary for disentangling the interplay of immigrants' national identification and their friendships with natives.

Regarding the question of whether *friends influence immigrants' national identification*, my analysis based on the FIS data confirms what we have seen in Chapter 3. That is, there was no evidence whatsoever that friends affected immigrants' national identification. Neither did having many native friends increase immigrants' national identification, nor did immigrants adjust their own identification towards that of their friends. Judging these results, it is worth repeating that the FIS data were designed to test potential effects of friends on identification. If even such a tailored sample yields no support for social influence mechanisms, it is tempting to conclude that friends indeed just do *not* matter for immigrants' national identification. Such a conclusion further would be consistent with *all* of the previous three chapters in this book, as none of them provided support for social influence mechanisms. The only caveat is that the FIS data mainly consist of Turkish immigrants for whom, as I argued in Chapter 4, because of bright ethnic boundaries such social influence mechanisms might be rather unlikely to operate in the first place.

With respect to selection mechanisms, let me first discuss *immigrants' friendship choices*. In the FIS data, the more strongly immigrants identified with the host country, the more likely they were to befriend native peers. At first glance, this result is contradictory to Chapter 3, in which immigrants' national identification was not related to their friendship choices. I suggested, however, that the degree to which immigrants' identification guides their friendship choices depends on relative group size. If there are few immigrants in a school, they "have" to befriend (some) natives and, therefore, their own identification-based preferences can hardly be realized. Such an opportunity structure was given in the Dutch classroom data I examined in Chapter 3, in which only one out of four students had a migration background. In classrooms of 20 to 25 students, immigrants therefore could hardly avoid befriending natives, irrespective of whether or not they preferred to do so. In stark contrast, in the FIS data I used in the current chapter, almost two out of three students were immigrants. In such a situation, immigrants with strong national identification could still befriend natives, but immigrants with weak national identification could afford not to do so. Unlike in the Dutch classroom data, immigrants in the current chapter thus faced an opportunity structure in which they could translate their identification-based preferences into actual friendship choices—and they did.

For *natives' friendship choices*, the picture was somewhat less clear, though. In contrast to Chapter 3, natives turned out *not* to prefer befriending immigrants with stronger rather than weaker national identification. This

came as a surprise, given that having a large pool of potential immigrant friends to choose from, natives should have tended to befriend those with stronger national identification. While my findings hint at the possibility that natives preferred to befriend immigrants with stronger national identification in schools in which natives were vastly outnumbered by immigrants, there is no evidence that they did so in schools in which both groups were relatively evenly distributed. In sum, in schools with high shares of immigrants natives' friendship choices did not seem to depend on immigrants' host country identification.

A possible explanation for this unexpected finding is offered by conflict theory (Van der Meer and Tolsma 2014; Quillian 1995; Scheepers et al. 2002). Put briefly, conflict theory argues that ethnic groups compete over scarce resources such as jobs, power, or identity, and that this competition undermines interethnic relations. Higher shares of outgroup members are expected to increase the perception of ethnic competition and ethnic threat; and for natives, this perceived threat should result in particularly strong preferences for native rather than immigrant friends (Vervoort et al. 2011). For instance, studying classrooms in England, Germany, the Netherlands, and Sweden, Smith et al. (2016) showed that native students' preference for fellow native friends indeed was more pronounced in classes with higher shares of immigrant students. One therefore might contend that natives in such schools avoid befriending immigrants, irrespective of how strongly these immigrants identify with the host country. Conflict theory thus might point to a possible explanation for why, on average, no association between immigrants' national identification and natives' friendship choices was found in the FIS data.

Another possibility is that natives in schools with high proportions of immigrants themselves identified less strongly with the host country and therefore did not have preferences for immigrants who did so. For instance, in our own work we found that natives' identification with the host country peaked in classrooms in which they made up about half of the classroom, but it was weaker in classrooms in which they either constituted the minority or the vast majority (Leszczensky et al. 2016a). This finding is consistent with optimal distinctiveness theory (Brewer 1991; Leonardelli et al. 2010), which states that group identification has to meet the two opposing needs for belonging and for differentiation. These two competing needs may best be met in contexts in which a group is neither too small to satisfy the need for belonging nor too large to satisfy the need for differentiation. Natives in the immigrant-dominated schools in the FIS sample then might not have preferred to befriend immigrants with stronger rather than weaker national identification, because their own national identification was less pronounced in such schools.

On the plus side, the study in the present chapter overcame several limitations of my study in Chapter 3. To begin with, I could rely on

a more sophisticated measure of national identification (Leszczensky and Gräbs Santiago 2015), and I was able to examine a longer period of time that was separated by more points of observation. Studying grade-level rather than classroom-level networks, I further had enough statistical power to conduct a meta-analysis instead of a so-called multi-group analysis (see Ripley et al. 2015). A key advantage of this approach is that it does not rely on the assumption that parameters are the same across all networks.

Still, my study also has its limitations. First, while the FIS data had many advantages for investigating the interplay of friends and identification, one drawback is that the number of observed networks was rather small. Lest it be forgotten, having ten grade-level networks observed for three points in time provided unprecedented statistical power to estimate selection and influence effects. But ten networks nonetheless provided relatively little power to assess the role of relative group size in the meta-regression, in which grades rather than students formed the unit of analysis. The respective results therefore have to be taken with a grain of salt, pointing in a direction rather than leading the precise way. In general, switching the unit of analysis from actors to networks involves an unfortunate trade-off. For example, one could think of a study collecting a high number of networks, say 100 or more, thus enabling a better estimation of the effect of relative group size on friendship choices. But such a study would still need to survey networks that consist of a large enough number of actors, say 100 or more, to yield enough statistical power to estimate complex interaction effects. In other words, the study we need would have to encompass repeated observation of about 10,000 students—doable in principle, but hardly feasible in practice.

A second shortcoming concerns the comparability of the FIS data and the Dutch data I used in Chapter 3. Most obviously, both data sets were collected in different countries, and they are made up of different immigrant groups. Even though I proposed an opportunity-related argument for why findings differ between the two chapters, these observed differences might also be due to the different samples or measurements. On the other hand, many of the results were either identical—like the missing evidence for social influence mechanisms—or in line with the group size argument.

Refraining from the ever true call to collect more data, let me conclude this chapter by offering three ideas for further research. First, future studies may combine the insights in Chapter 4 with those of longitudinal social network studies like the one I conducted in the current chapter. Based on a social networks approach, one could investigate whether social influence mechanisms indeed are *conditional on ethnic boundaries*. On the one hand, one might test immigrant group-specific influence hypotheses, trying to identify respective effects for specific subgroups like ethnic Germans. On the other hand, rather than inferring ethnic boundaries at the group level, future studies may also go one step further by exploiting information on individual perceptions of ethnic boundaries to more directly test the respective theoretical argument.

Second, further research is needed to clarify if and how immigrants' national identification matters for *natives' friendship choices*. So far, the evidence is mixed; in Chapter 3, natives seemed to prefer immigrants who identified strongly with the host country, but in the immigrant-dominated sample in the current chapter, they showed no such tendency. Based on, for example, conflict theory and optimal distinctiveness theory, researchers might develop and test theoretical explanations for this pattern.

Third, future research may still attempt to provide better tests of the *opportunity structure argument*. For reasons discussed above, doing so within a social-network-analytic framework would pose high data requirements that are unlikely to be met in the foreseeable future. But one might test observable implications of the relative group size argument using other approaches. For instance, if relative group size affects immigrants' identification-based friendship choice, longitudinal multi-level regression models should reveal respective associations. While such an approach would in some ways fall behind what is possible with longitudinal network data, the evidence obtained from such studies still might be a useful addition to gain a more comprehensive picture of what is going on.



## Chapter 6

# General Discussion

In this concluding chapter, I seek to answer the key question of all sociological inquiry: *So what?* My answer consists of two parts. Looking back, I recapitulate what the substantive chapters of this book have taught us, and why it matters (6.1). Looking ahead, I elaborate on what the lessons we learned throughout this book imply for further research (6.2).

### 6.1 What Have We Learned—And Why Does it Matter?

Summarizing what we have learned in this book requires answering two questions. First, what are the *key findings* of the studies I conducted in the substantive chapters of this book? Second, what are their *implications*, and, closely related thereto, their major limitations? After working through these questions for each chapter in turn, I zoom out and focus on the larger picture by providing a combined discussion of what my research has taught us and why it matters.

#### Chapter 2: A First Longitudinal Inquiry

In this book, we departed from an *empirical pattern* that had been established by numerous cross-sectional studies: immigrants who strongly identify with the host country have higher shares of native friends than immigrants with weaker host country identification (e.g., Agirdag et al. 2011; Lubbers et al. 2007; Phinney et al. 2006; Sabatier 2008; Tolsma et al. 2012; De Vroome et al. 2011, 2014). While this general pattern was well-known when I started working on this book, we possessed very little knowledge about *how and why it emerges*. In particular, we did not know whether immigrants' national identification affects their friendships, or whether immigrants' friends influence their national identification.

As a first step towards *disentangling the causal interplay* of immigrants' national identification and their friendships with natives, the research question of my opening substantive chapter plain and simple was:

**Research Question 1:** Do national identification and native friendships affect one another?

In order to answer this question, I distinguished four broad scenarios that may underlie the association between immigrants' national identification and their friendships with natives. First, as suggested by various theoretical approaches, native friends may strengthen immigrants' national identification (*Influence*). Second, immigrants' national identification may in turn foster friendships with natives by increasing their preferences for native friends (*Selection*). Third, these two causal pathways are not contradictory and may both operate empirically (*Both Selection and Influence*). Fourth, the relation between friends and identification might be spurious, caused by unobserved factors that determine immigrants' identification as well as their friendships (*Neither Selection Nor Influence*).

I longitudinally examined these four scenarios using three-wave panel data for adolescents of Turkish origin in Germany. To meet the methodological challenges of unobserved heterogeneity and potential reverse, or reciprocal, causality, I relied on lagged first-difference models (Allison 2009). These models provided a rather strict test by estimating whether intra-individual changes in immigrants' national identification over time led to changes in the share of native friends at later points in time, and vice versa.

My results revealed that *neither* did changes in immigrants' national identification affect the share of their native friends, *nor* did changes in the share of native friends affect immigrants' national identification. This finding suggests that, despite being positively associated cross-sectionally, friends and identification did *not* affect one another. Instead, my analysis indicated that the cross-sectional correlation of friends and identification was spurious, brought about by stable unobserved joint determinants.

The take-home message of Chapter 2 is that researchers need to be very cautious in interpreting the cross-sectional association between immigrants' national identification and their friendships with natives in a causal manner. There is a long list of potential factors, like host-language proficiency or perceived discrimination, that both may affect how strongly immigrants identify with the host country and how many natives they befriend. While I did *not* seek to identify these joint determinants, I came back to this issue in Chapter 4 when arguing that bright ethnic boundaries may prevent native friends from influencing immigrants' national identification.

For two reasons, though, it would be too hasty to conclude from Chapter 2 that immigrants' national identification and their friendships with natives just don't affect one another. For one thing, my study in Chapter 2 constituted a rather strict causal test, but one caveat was that this test was restricted



to *changes* in either friends or identification during a specific period of observation. The advantage of meeting the methodological challenges of unobserved heterogeneity and reverse causality therefore came at the price of limited applicability, thus raising the question of whether these results are generalizable. Equally important, while I distinguished four broad scenarios, my opening empirical chapter provided no insights into the underlying mechanisms. This led us to the next chapter.

### Chapter 3: Refining Selection and Influence Mechanisms

Understanding what is going on required me to *refine the theoretical arguments* made in favor of both selection and influence processes. This general need for theoretical precision was amplified by *inconclusive findings* of the few longitudinal studies that have addressed the causal interplay of friends and identification. Whereas in my opening empirical chapter I did not find evidence that immigrants' national identification and the share of their native friends affected one another, other recent longitudinal studies reached different conclusions. While Munniksma et al. (2015) suggested a bidirectional (causal) relation between friends and identification, the study by Rutland et al. (2012) indicated that friends influence immigrants' identification, but not the other way around.

In Chapter 3, I tried to get closer to the *micro-level processes* underlying the ambiguous association between friends and identification by addressing the following question:

**Research Question 2:** How exactly do various selection and influence mechanisms account for the relation between national identification and native friendships?

I theoretically refined both selection and influence mechanisms by distinguishing between two respective sub-processes for each of them. Regarding selection mechanisms, I improved upon earlier research by acknowledging that it takes two to tango and, accordingly, focusing on *friendship choices made by both immigrants and natives*. In short, I argued that immigrants who identify strongly with the host country are more similar to natives than to immigrants who identify weakly with the host country. Immigrants' national identification therefore may not only increase their own preferences for native friends but also make them more attractive as friends to natives. Regarding influence mechanisms, I also differentiated two processes. On the one hand, as speculated by many cross-sectional studies, *having many native friends* may increase immigrants' national identification, because native friends support host country identification. On the other hand, however, irrespective of their friends' ethnicity, immigrants may also more generally *adjust their own identification towards that of their friends*, as they prefer being similar to their friends.

I empirically tested these refined selection and influence mechanisms using two waves of Dutch network panel data. Demonstrating the potential of a longitudinal social network approach, I employed stochastic actor-oriented models (SAOM) for the co-evolution of networks and behavior to disentangle the causal interplay of immigrants' host country identification and their friendships with natives (Snijders et al. 2010; Steglich et al. 2010). SAOM not only provided the statistical means to separate selection from influence mechanisms, but also allowed me to get closer to the underlying mechanisms by jointly modeling immigrants' and natives' friendship choices, immigrants' development of national identification, and the interrelation of these processes.

Contrary to theoretical expectations, I found that strong national identification did *not* make immigrants more likely to befriend native peers. Native students, however, preferred to befriend immigrants with stronger rather than weaker national identification. My findings further did *not* provide evidence of any kind of social influence process, i.e., neither did having many native friends increase immigrants' national identification, nor did immigrants' adjust their national identification towards that of their friends.

In contrast to the lagged first-difference model I used in Chapter 2, a key advantage of SAOM is that they are not restricted to changes in either friends or identification, but also capture potential effects of stability in both of them. This is because SAOM not only model the consequences of change, but also account for the fact that a constant level of national identification might matter for friendship choices, and that a friendship network with a stable ethnic composition might in turn influence the development of immigrants' national identification. It is further worth stressing that the actor-oriented approach in Chapter 3 constituted a relatively direct test of potential selection and influence mechanisms. In contrast to regression-based approaches like the one I relied on in Chapter 2, SAOM allowed me to explicitly model the friendship choices of immigrants and natives, the evolution of immigrants' national identification, and how both processes were linked. I also contend that by neatly aligning to theoretical mechanisms, SAOM provided some protection against unobserved heterogeneity. For example, SAOM allowed controlling for network-endogenous tie-generating mechanisms that are well beyond the scope of conventional regression models, such as the tendency to befriend one's friends' friends. Moreover, by explicitly acknowledging the interplay of actors' decisions, SAOM also model the micro-macro link that accounts for what we observe empirically. In short, SAOM come close to the ideal of the Coleman boat by providing an account of how micro-level processes interact to create the macro-level phenomenon we observe empirically (also see Kalter and Kroneberg 2014; Snijders and Steglich 2015).

The advantages mentioned above more than compensated for several limitations of the data I used in Chapter 3, some of which I tackled in Chapter 5. Apart from demonstrating the potential of a longitudinal social network approach, the chapter offered two important insights. Regarding selection

mechanisms, my results indicated that immigrants' national identification might be as important, or in fact even more important, for natives' friendship choices than for those of immigrants themselves. Regarding influence mechanisms, my findings raised serious doubts that immigrants' national identification is affected by their native friends, or by their friends in general, for that matter. Since this result calls into question the alleged causal chain from social to emotional integration stated by classical assimilation theories (e.g., Gordon 1964; Nauck 2001), I went on to further investigate this prominent but apparently non-existent link.

## Chapter 4: The Role of Ethnic Boundaries

Many cross-sectional studies suggest that native friends foster the development of immigrants' host country identification (e.g., Agirdag et al. 2011; Phinney et al. 2006; Sabatier 2008). But as we have seen, supportive longitudinal evidence for this claim is surprisingly scarce. In fact, in Chapters 2 and 3 I did *not* find any evidence of social influence processes. Why is that?

In search of an *explanation of the mixed findings concerning social influence mechanisms*, I posed the following question in Chapter 4:

**Research Question 3:** Does the nature of ethnic boundaries affect the degree to which native friends influence immigrants' national identification?

By examining various immigrant groups together, most prior studies, including my own in the earlier chapters, imply that native friends similarly affect members of different immigrant groups. Following our own earlier cross-sectional work (Schulz and Leszczensky 2016), by contrast, I suggested that whether or not native friends influence immigrants' national identification might depend on the nature of *ethnic boundaries* between immigrants and natives, which notably differs between immigrant groups. Ethnic boundaries are bright if actors clearly belong to a particular ethnic group, but they are blurred if group membership and respective group identities are more ambiguous (Alba 2005). Following this distinction, I hypothesized that native friends may fail to increase immigrants' national identification if ethnic boundaries are bright, as in the case of Turkish immigrants in Germany, but that they may do so if ethnic boundaries are blurred, as in the case of ethnic German immigrants.

I exploited two three-wave panel data sets to longitudinally test these group-specific social influence hypotheses. For this purpose, like in Chapter 2, I applied lagged first-difference models to account for unobserved heterogeneity and reverse causality, i.e., selection effects. Taking into account recent advances in panel data analysis, I compared their results with more flexible alternative panel model specifications that integrate cross-lagged

panel models into the framework of structural equation modeling (Allison 2014; Williams et al. 2015).

In line with my theoretical expectations, changes in the share of native friends did *not* affect Turkish youths' host country identification. As also hypothesized, however, there was some evidence that increases in the share of native friends indeed strengthened national identification on the part of ethnic German students. These findings were in line with the longitudinal study I conducted in Chapter 2; they also lend support to our earlier cross-sectional study (Schulz and Leszczensky 2016).

The main implication of Chapter 4 is that ethnic boundaries may determine whether native friends influence immigrants' host country identification. That is, having many native friends may not increase immigrants' national identification if ethnic boundaries are bright, for such bright boundaries block friends' strengthening immigrants' national identification. If ethnic boundaries are less pronounced, however, having native friends may indeed foster immigrants' national identification. This reasoning offers an explanation for the seemingly mixed findings of earlier studies. For example, I may not have found influence effects in Chapter 2 because ethnic boundaries between Turkish and native German students are particularly bright, which prevented native friends from affecting Turkish immigrants' national identification. Moreover, bright ethnic boundaries may further make it harder for Turkish students to befriend native peers, thus constituting a time-constant joint unobserved determinant of friends and identification. The sample I relied on in Chapter 3 also mainly consisted of non-Western immigrants, for whom ethnic boundaries are rather bright as well. Accordingly, bright ethnic boundaries provide one plausible account for why I did not find social influence mechanisms in that chapter either.

When thinking about the results in Chapter 4, it bears mentioning that ethnic Germans are a highly specific immigrant group. Compared to other immigrant groups in Germany, ethnic Germans have several benefits, such as granted citizenship and a unique degree of cultural similarity to native Germans (Dietz 1999; Luthra 2013; Schulz and Leszczensky 2016). This specific role of ethnic Germans within the German society raises the question whether friends also influence the national identification of immigrant groups for whom the nature of the ethnic boundary between them and native Germans falls somewhere in between those for ethnic Germans on the one hand and Turks on the other. Another limitation of my analysis in Chapter 4 that offers a promising avenue for further research was that I could not rely on individual perceptions of ethnic boundaries. Instead of further pursuing this social influence path, however, in my last substantive chapter I revisited an unexpected finding in Chapter 3.

## Chapter 5: The Role of Relative Group Size

In Chapter 3, we saw that native students preferred to befriend immigrants with strong rather than weak host country identification. Surprisingly, however, *no* respective increased preference of high-identifying immigrants for native friends was found. Following up on these findings, I pursued two goals in my final substantive chapter. On the one hand, acknowledging the limited generalizability of my network study in Chapter 3, I conducted a *robustness test* of this study using newly collected German network panel data. These data allowed me to address several shortcomings of my study in the earlier chapter, as they included a longer period of observation, a more adequate measure of national identification, and larger friendship networks. On the other hand, going beyond a mere robustness test, I sought an *explanation of why I did not find the expected selection effect for high-identifying immigrants*. In the discussion in Chapter 3, I had suspected that opportunity structure in school in the form of relative group size might account for this surprising finding.

Addressing the role of *opportunity structure*, my fourth and final research question therefore asked:

**Research Question 4:** Does relative group size matter for identification-based friendship choices?

I proposed a theoretical argument for why the degree to which friendship choices are affected by immigrants' host country identification might depend on relative group size. In short, I hypothesized that immigrants' host country identification especially matters for immigrants' own friendship choices in schools with high shares of immigrants, because immigrants can be pickier about native friends in these schools. Accordingly, in schools in which they make up a larger part of the student body, immigrants should be better able to translate their identification-based preferences into actual friendship *choices* than in schools in which they constitute a minority.

I tested my hypotheses using three waves of German network panel data that were specifically collected to study the interplay of immigrants' national identification and their friendships with natives. Like in Chapter 3, I employed stochastic actor-oriented models (SAOM) to separate selection from influence mechanisms. To assess whether relative group size moderated selection effects I further conducted a meta-regression in which I included the share of immigrants in school as a predictor at the grade-level.

Securing my finding in Chapter 3, I found no evidence that friends affect immigrants' national identification. That is, neither did having many native friends increase immigrants' identification with the host country, nor did immigrants' adjust their own identification towards that of their friends. Regarding friendship choices, in schools with high shares of immigrants, immigrants who identified more strongly with the host country indeed were

more likely to befriend native peers than were immigrants with weaker host country identification. There were no selection effects for natives, however. Results of a meta-regression further revealed that immigrants' national identification mattered more for their friendship choices in schools in which they made up the vast majority of the student body.

First of all, the results in Chapter 5 complement the findings in Chapter 3. In neither chapter did I find any evidence that friends influence immigrants' national identification. It is worth stressing that this finding was obtained based on a sample that not only overcame several shortcomings of the one I used in the earlier chapter, but was in fact tailored to test such influence mechanisms (Leszczensky et al. 2015). In combination with what I found in the other chapters, it is thus tempting to conclude that friends just don't matter for immigrants' identification. My findings further hint at the possibility that relative group size may indeed matter for identification-based friendship choices. As expected, in the immigrant-dominated schools under study immigrants with stronger national identification indeed were more likely to befriend natives than were those with weaker national identification. Unexpectedly, however, native students did not prefer to befriend immigrants' with strong rather than weaker national identification.

Interpreting these results, one should bear in mind that whereas my study could exploit much information on the actor level, much less information was available on the school level. Pointing to the possibility that relative group size determines whether or not identification-based preferences can be translated into actual friendship choices, my study is an important first step towards more research on the role of opportunity structure.

### **The Big Picture—Or How Does It All Fit Together?**

Why do young immigrants who identify strongly with the host country have more native friends than those with weaker host country identification? Disentangling the interplay of these two respective indicators of emotional and social integration was the key task of this book. And we are now equipped to give a brief account of what is—and what isn't—going on.

First and foremost, it is a *selection* story. That is, under certain conditions, immigrants' national identification seems to affect friendship choices of both immigrants and natives. On the one hand, in schools in which immigrants constituted the majority of the student body, those who identified more strongly with the host country were more likely to befriend native peers than were those who identified less strongly. On the other hand, in schools in which immigrants constituted a minority, natives tended to befriend immigrants with stronger rather than weaker national identification. Whether or not immigrants' national identification mattered for friendship preferences thus seems to depend on the opportunity structure immigrants and natives encounter.

Do friends also in turn influence immigrants' national identification? To make a long story short, and at the risk of only slightly oversimplifying: no, they don't. In neither of my four empirical chapters, did I find evidence of any kind of social influence mechanism. The only qualification to this conclusion is that under very specific favorable social conditions, i.e., in the case of blurred ethnic boundaries between ethnic Germans and native Germans, there was some evidence that natives' friends might indeed foster immigrants' national identification.

Having told the story of this book, *why should we care?* Early in the 21st century integration researchers have taken up the challenge of disentangling the cross-connections between the different dimensions of immigrants' integration. I both hope and believe that this book adds to this important endeavor of better understanding the overall process of immigrants' integration. This key need of basic research has been amplified by the recent inflow of mainly Muslim refugees from the Middle East, which has fueled debates about social co-existence in ethnically, culturally, and religiously diverse Western European societies. These debates arguably include—but of course are by no means limited to—the link between social and emotional integration on which I focused in this book.

Remember Nuri Şahin, the German-Turkish football player we met in the introduction, who in contrast to Mesut Özil decided to play for Turkey rather than for Germany? Using his example, I asked the larger question why, apart from demographics and structural integration, some immigrants identified more with the host country than others. Why, in short, did Nuri decide differently than Mesut?

When I began working on this book in 2011, I started from the premise that native friends were a crucial part of the story. Not, I hasten to add, that I held any illusions about career decisions of professional football players. But the larger point was that I assumed that native friends were a driving force behind immigrants' emotional integration. And I was hardly alone. It is worth repeating one last time that a vast number of cross-sectional studies suggest that having many native friends increases immigrants' identification with the host country (see, e.g., Agirdag et al. 2011; Lubbers et al. 2007; Phinney et al. 2006; Sabatier 2008; Tolsma et al. 2012; Walters et al. 2007; De Vroome et al. 2011). And more recent studies continue to do so (e.g., De Vroome et al. 2014; Maxwell and Bleich 2014).

The supposition that friends influence identification comes, I guess, naturally to social scientists, many of whom share the core belief that concrete social interactions affect how people think, feel, and act. Classical assimilation theories also state that social integration *precedes* emotional integration (e.g., Alba and Nee 1997; Gordon 1964; Nauck 2001). Sounding intuitively convincing, many scholars apparently took—and take—for granted this link from friends to identification.

In this book, though, I have come to a different conclusion. In fact, the moral of the story that emerges from my empirical chapters is that the causal link mainly goes from emotional to social integration, and *not* the other way around. Whatever drove Mesut Özil's and Nuri Şahin's decisions, it was probably not their friends.

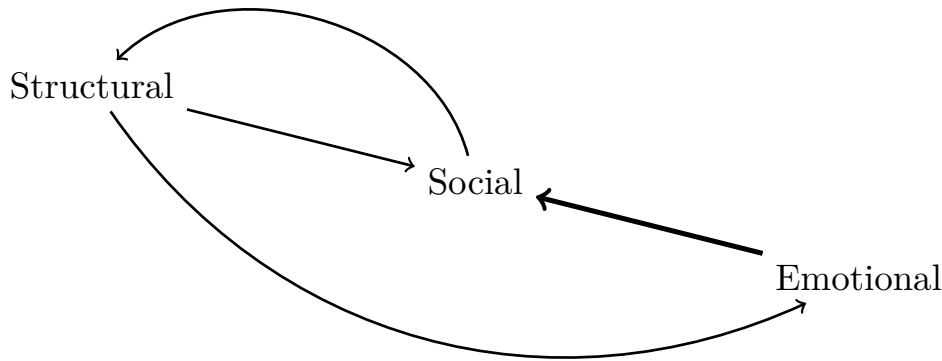
And that makes sense. Consider that above all, classical assimilation theories reflect the experiences gained in typical immigrant societies, first and foremost the United States. In such a society made up by the descendants of immigrants, hybrid national and ethnic identities are widespread, for example Asian-American or Mexican-American (Verkuyten and Martinović 2012; Waters 1990). It is not at all implausible to assume that whether, or rather how fast, immigrants and their descendants subscribe to the latter part of these hybrid identities—the American one—partly depends on the degree of their social integration.

This situation, however, is vastly different in the two Western European societies that I studied in this book. Only in relatively recent times, have Germany and the Netherlands admitted that, as a matter of fact, they have become receiving countries, with immigrants and their offspring being there to stay. With the winds of social change blowing slowly, these admissions have not yet been fully matched by the emergence of more inclusive national identities. In fact, German and Dutch national identities still are defined by ethnic origin (Alba 2005; Ersanilli and Saharso 2011; Gehring 2016; Meier and Leinwather 2013; Verkuyten and Yildiz 2007). This does *not* imply, I hasten to add, that immigrants, let alone their descendants, cannot identify with these countries. They not only can, but they in fact do so to a considerable extent, as we have seen in the empirical chapters of this book. But given persistent bright ethnic boundaries between natives and most immigrant groups, the road to emotional integration remains a rocky one in Western Europe. And friends do not seem to play a major role on this voyage.

Given the apparently non-existent link between social and emotional integration, it becomes even more important to emphasize that a lack of emotional integration in turn seems to hamper social integration. Identity, in short, matters. At first, this insight might seem almost trivial. But it is not. Quite the opposite: migration researchers long have treated the emotional dimension of integration as an orphan, claiming that host country identification is of minor importance. On the one hand, this was partly because classical assimilation theories suggest that identificational assimilation will follow automatically after immigrants have been culturally, socially, and, above all, structurally integrated. On the other hand, researchers maintain that the functioning of complex modern societies does not necessarily require identification on the part of its members (e.g., Esser 2000: 304f.; Kalter 2008: 25f.).

Be that as it may, in this book I demonstrated that how immigrants identify themselves *does* have consequences for their friendships. Considering



**Figure 6.1:** *Reconsidering the Broader Process of Immigrants' Integration*

the *overall process of immigrants' integration*, we may thus reconsider the role of emotional integration. This is illustrated in *Figure 6.1*. Rather than marking the endpoint and being of negligible importance, emotional integration affects social integration. I thickened the respective arrow to emphasize this novel finding of my work.<sup>1</sup> This insight matters not the least because of the link between social and structural integration. While integration in the labor market and in the educational system continues to be of prime importance, we by now also know that being socially integrated pays off for immigrants on the labor market (e.g., Kalter 2006; Kanas et al. 2011, 2012; Lancee 2012; Riedel 2015). A lack of native friends as a consequence of lacking emotional integration therefore may ultimately also hamper immigrants' structural integration.

If a lack of host country identification prevents friendships between immigrants and natives, the question further arises of how to encourage the development of national identification among immigrants. Answering this question far exceeds the scope of this book, and I spare the reader of struggling with half-baked ideas of mine. Instead, I stress that my research has *shown* that immigrants' national identification matters for friendships between immigrants and natives. If desired, this insight provides a factual basis for further debates among policy makers and pundits. In any case, it provides a basis for further research, and I conclude this book by pointing to some fruitful avenues.

<sup>1</sup>To avoid a misunderstanding, let me add a word of caution here: while I have shown that the causal arrow runs from identification to friends, by emphasizing this link I do not intend to claim that it is stronger than the other links depicted in the figure.

## 6.2 What's Next?

This book has cumulatively increased our knowledge about how the association between immigrants' national identification and their native friends emerges. Based on the implications and the limitations of my findings, what are the most urgent questions for follow-up research? Here are some suggestions.<sup>2</sup>

### Complementing the Picture: The Interplay of Different Dimensions of Immigrants' Integration

In this book, I have added to our understanding of the overall process of immigrants' integration by examining the interrelation of the emotional and the social dimensions of integration. An overarching related question is how exactly *other dimensions of integration* are associated with the development of immigrants' national identification and their friendships with natives.

Against this backdrop, it bears mentioning that the findings in Chapter 2 implied the existence of time-invariant *unobserved determinants* that jointly affected the strength of immigrants' national identification and the share of their native friends. Let's call these joint unobservables *X*. And let me stress that *X*-hunting was *not* my objective in this book.

Still, while I did not seek to identify these joint determinants, I acknowledge that Chapter 2 raises the question of which factors simultaneously drive the formation of friendships between immigrants and natives and immigrants' national identification. I hinted at some candidates throughout the book, for example (perceived) discrimination, host-language proficiency, and parental attitudes. In Chapter 4 I further discussed the role of ethnic boundaries, suggesting that a bright ethnic boundary might hamper both the formation of friendships between immigrants and natives and the development of immigrants' national identification (also see Diehl et al. 2016). As I point out below, this idea might further be tested by future research.

In order to gain a more comprehensive picture, future research thus may study the driving forces behind both emotional and social integration. One example is the link between *host-language proficiency* on the one hand and immigrants' national identification and their friendships with natives on the other. In a longitudinal study of first-generation immigrants in Germany, Hochman and Davidov (2014) recently found that host-language proficiency had an effect on first-generation immigrants' identification with the host country, but not the reverse. Extending this research to include the

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<sup>2</sup>Note that I have formulated various ideas in the discussion sections of the substantive chapters in this book, several of which I myself have picked up in later chapters. For the record, further note that, yes, we need more data, more countries, more of everything. A longer period of observation also would be fine, as would be cake for all.

descendants of immigrants seems promising, especially in conjunction with additionally studying the link between language and friendship formation.

### **On a Methodological Note: Between First-Differences and Stochastic Actor-Oriented Models**

Research on the interplay of friends and identification faces the two methodological challenges of unobserved heterogeneity and reverse causality. Throughout the chapters of this book, I followed two different statistical approaches to meet these challenges, each of which has its pros and cons.

In Chapters 2 and 4, I used variation within individuals over time to estimate the effects of changes in immigrants' national identification between two time points on changes in the share of their native friends between two later time points, and vice versa. These *lagged first-difference (LFD) models* provided protection against both time-invariant unobserved heterogeneity and reverse causality (Allison 2009). Elegant as these models are, they face two problems.

First, as Vaisey and Miles (2014) recently showed through simulations, LFD models crucially depend on the assumption that the lags between panel waves match those of the real-world causal process under study. If they don't and effects are closer to being contemporaneous than to operating in a lagged way, estimators might be considerably biased. Unfortunately, this assumption cannot be tested, and existing theories do not provide strong guidance to judge its validity. Additional theoretical and methodological work is needed to address this issue (see Allison 2014; Williams et al. 2015).

Second, even if the problem raised by Vaisey and Miles (2014) does not apply, the applicability of LFD models is limited to observations that actually did change on the independent variable. On the one hand, it is precisely this information that is exploited to conduct a rather strict causal test. On the other hand, this advantage comes close to throwing the baby out with the bathwater. Limiting the analysis to changes in national identification, for example, ignores that stable levels of identification might steadily affect friendship choices. More flexible models therefore are desirable.

The second methodological approach I relied on was *stochastic actor-oriented models (SAOM)* for the co-evolution of networks and behavior (Snijders et al. 2010; Steglich et al. 2010). In contrast to LFD models, SAOM do not operate within a regression-framework; instead, they simulate the interrelated processes of friendship network formation and the development of national identification. Such an approach has crucial advantages, but comes with some disadvantages as well.

A first key advantage of SAOM over regression-based approaches like the LFD model is that SAOM explicitly model the alleged underlying processes. For one thing, the actor-oriented approach aligns more closely with suspected theoretical mechanisms (Leszczensky and Pink 2015). For another, SAOM

come close to meeting the ideal of the Coleman boat by not only modeling how actors behave in given situations but also explicitly modeling how these individual actions interact to create the macro-level phenomenon we observe empirically (Kalter and Kroneberg 2014; Snijders and Steglich 2015).

A second major advantage of SAOM is that they do not rely on assumptions about the precise timing of effects, as they are built on a continuous time parameter (Snijders et al. 2010).<sup>3</sup> Findings based on SAOM therefore are *not* restricted to those observations that would actually change on the respective variables. In light of the problems of LFD models pointed out by Vaisey and Miles (2014), this feature is of prime importance.

Despite these advantages, like all statistical models, SAOM also have their limitations. First, unlike LFD models, SAOM do not protect against unobserved heterogeneity. On the one hand, this disadvantage is partly offset by the possibility to control for relational tie-generating mechanisms and to directly test social influence mechanisms arising from network structures, neither of which is feasible within a regression-framework. Nonetheless, omitted variables still threaten conclusions drawn from SAOM. For instance, if immigrants' who identify strongly with the host country are also more proficient in its language and these differences are not controlled for, effects of immigrants' identification on their friendship choices might actually be due to variation in language rather than in identification.

A second difficulty for SAOM involves the study of group-specific hypotheses. In a regression-approach, researchers can either conduct separate analyses for subsamples like different ethnic groups or add respective interaction effects to a joint model. In SAOM, by contrast, no actors can be excluded, as the observed network forms the unit of analysis. Therefore, specifying interaction effects currently is the only possibility to test for group differences within SAOM. One practical problem of this approach is that it might easily lead to quite complex models with higher-order interaction effects, which are hard to interpret and even harder to estimate.

Where does this all leave us? Methods are tools to answer substantively interesting questions. And like tools that are actually useful in the real world, methodological tools typically are designed to meet specific purposes, but not others. Researchers who have a hammer therefore should not view all problems as nails. SAOM, for instance, are our most powerful tool for analyzing the co-evolution of networks and individual characteristics—in fact, this is what I tried to convince you of in Chapter 3. And while I think that the pros of SAOM outweigh those of LFD models, depending on the specific question being asked, the latter one, and other tools, also have their say. Future research thus should be flexible, try to test the assumptions on which

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<sup>3</sup>This being said, when applying SAOM, researchers of course implicitly make the assumption that respective effects occur during the observed period of observation.

SAOM and LFD models rely, and keep thinking of alternative statistical approaches.

### **The Search Goes On: Further Refining Social Influence Mechanisms**

As just mentioned, a secondary objective of mine in this book was to demonstrate the potential of a longitudinal social network approach for disentangling the causal interplay of friends and identification. While I hope that Chapters 3 and 5 have achieved this objective, my studies only mark a first step in this direction. This especially applies to the test of potential social influence mechanisms. Although we have seen that friends do not seem to play a major role in shaping immigrants' host country identification, more fine-grained mechanisms might still operate. Social network analysis provides a good tool to address the resulting question of under which *conditions* friends might influence the development of immigrants' national identification.

One key aspect is to bring in social structure by considering the connectivity of friendship cliques. Considering the work of Walker and Lynn (2013), for instance, future research might focus on *structural* features of friendship networks, such as the embeddedness of friends sharing a particular identification. The pressure to conform towards the identification of one's friends might be strong if one belongs to a dense clique in which most members share the respective identity. If, by contrast, one has a more diverse friendship network in which one's friends are less connected to each other, social influence mechanisms seem much less likely. In other words, the structure of immigrants' friendship networks may affect the degree to which they adjust towards the identification of their friends.

Considering the role of *native* friends, one might also think about what sets apart natives who have immigrant friends from those who don't. After all, immigrants' friends probably are not a random sample of native peers but rather have certain attitudes that make them befriend immigrants in the first place (Martinović 2013; Savelkoul et al. 2015). For example, ethnicity might play less of a role for natives who befriend immigrants, and they themselves may have comparatively low levels of national identification. If true, this might be part of the reason why I did not find that native friends increase immigrants' national identification.

Aside from native friends, the larger ethnic composition of the friendship network, and especially *same-ethnic* friends, may also play a role (see Phinney et al. 2001; Sears et al. 2003; Syed and Juan 2012). For example, native friends might not be influential in a friendship network of an immigrant that consists mainly of same-ethnic friends who share the respective ethnic identity. In an ethnically more diverse friendship network, by contrast, there might be less pressure to maintain one's ethnic identity, and native friends therefore might become more important for building up national identification.

## Remembering the Thomas Theorem: Subjective Perceptions of Ethnic Boundaries

The results in Chapter 4 pointed to the possibility that ethnic boundaries determine whether or not native friends influence immigrants' national identification. In that chapter, I treated ethnic boundaries as relatively *stable* social conditions that *similarly* apply to all members of specific immigrant groups. Both assumptions cannot only be contested, but should in fact be tested by future research.

Recall the Thomas theorem: "If men define situations as real, they are real in their consequences (Thomas and Thomas 1928: 572)." In other words, what really matters are not "objective" ethnic boundaries—about the precise nature of which one might disagree—but rather *subjective* individual perceptions of such ethnic boundaries. And these may very well differ both within individuals over time and between individual members of the same group. Instead of inferring ethnic boundaries at the group level, an important next step is thus to more directly test the respective theoretical arguments by exploiting information on subjective perceptions of ethnic boundaries.

On the one hand, subjective perceptions of ethnic boundaries may *change over time*, being affected by personal experiences such as discrimination (Badea et al. 2011; Çelik 2015; Skrobanek 2009) or by changes in the close social environment (Ethier and Deaux 1994; Kiang et al. 2010). In fact, changes in the perception of ethnic boundaries may be related to either changes in the ethnic composition of the friendship network or to broader changes that also affect the ethnic composition of the friendship network. Such changes would be problematic for statistical models, for these cannot account for time-variant unobserved heterogeneity.

On the other hand, the perception of ethnic boundaries may also *vary between different members of the same immigrant group* (Boda and Néray 2015). Turks in Germany, for example, are hardly a homogeneous group, differing with respect to their religion, their looks, and the degree of their overall integration. While it is not far-fetched to describe the ethnic boundary between Turkish immigrants and German natives as bright (see Alba 2005; Diehl et al. 2016; Luthra 2013; Witte 2014), this boundary subjectively still may be perceived very differently by Turkish immigrants. Similarly, not all ethnic Germans are created equally, and some of them might perceive the ethnic boundary as bright rather than blurred.

Future research therefore should aim for more direct tests of the argument about the role of ethnic boundaries. Direct measurements of how individuals perceive ethnic boundaries are desirable, including the degree of perceived discrimination and the (in-)compatibility of ethnic and national identities (see Diehl et al. 2016 as a first step in this direction). One particularly promising idea for such an enterprise would be to combine the theoretical

arguments in Chapter 4 with the strengths of the social networks approach used in Chapters 3 and 5.

### **Preferences and Opportunities: Further Linking Research on Identification and Friendship Formation**

Chapters 3 and 5 provided evidence that immigrants' national identification potentially matters for friendship choices of both immigrants and natives. A key question arising from my research, however, is *under what conditions* this is the case.

In Chapter 5 I offered an explanation based on opportunity structure in the form of relative group size. The data I used in that chapter had many advantages, but unfortunately they did not contain enough information to provide a strict test of this explanation. Yet, while there is hardly any research on the relation between ethnic composition in school and ethnic, let alone national, identification, there is a growing body of research that examines if and how ethnic composition in school is related to interethnic relations such as attitudes (e.g., Janmaat 2014; Stark et al. 2015; Van Geel and Vedder 2010) or friendships (e.g., Currarini et al. 2010; Kalter and Kruse 2015; Moody 2001; Munniksma et al. 2016; Smith et al. 2016).

One key finding in this area of research is that ethnic friendship homophily is most pronounced in ethnically or racially heterogeneous classrooms (Moody 2001; Smith et al. 2016). While this is partially due to increased opportunity for minority students to form ingroup friendships in ethnically diverse schools (Quillian and Campbell 2003), scholars also attribute this finding to a perception of ethnic threat (Munniksma et al. 2016; Thijs and Verkuyten 2014; Smith et al. 2016).

Our own recent work suggests an alternative possibility, though, as we found a reversed U-shaped effect of ethnic classroom composition on both native and immigrant students' ethnic identification (Leszczensky et al. 2016a). More precisely, we showed that adolescents' ethnic identification peaked in classrooms in which their ethnic group made up about half of the classroom, but was weaker in classrooms that were either below or above this threshold. This finding supports optimal distinctiveness theory (Brewer 1991; Leonardelli et al. 2010), which assumes that individuals have both a need both for belonging and for differentiation. These opposing needs might best be satisfied in schools in which one's own ethnic group is neither too small nor too large, thus resulting in particularly strong ingroup identification. Such an increased ethnic identification might go hand in hand with stronger preferences for same-ethnic friends. Future studies therefore may further examine the link between relative group size on the one hand, and ethnic identification and friendship formation on the other.

Researchers also may think about additional ways to test the opportunity structure argument. As I discussed at the end of Chapter 5, I doubt that

doing so will be possible from a social networks approach, because this poses high data requirements that are hard to meet in practice. But to paraphrase King et al. (1994), one might think about alternative *observable implications* of the respective theoretical argument to gather additional evidence. For example, if relative group size indeed determines identification-based friendship choices, longitudinal multi-level regression models should reveal respective associations. While such an approach would in some ways fall behind what is possible with longitudinal network data, the evidence obtained from such studies still would allow us to gain a more comprehensive picture of what is going on.

Finally, while I proposed an opportunity structure-related argument, *alternative theoretical arguments* could and should be developed and tested. This especially applies to natives' friendship choices, which did not seem to depend on relative group size in the ways I expected it to do. If I would had concrete suggestions, I would have been happy to offer them in the discussion of Chapter 5. But let's open the floor for discussion.

### **Bringing Religion and Religiosity In**

Whereas I focused on ethnicity in this book, an important related question is how religion and religiosity influence social contact between religious groups on the one hand and immigrants' host country identification on the other. Western European societies nowadays are highly diverse, and this growing diversity is not limited to ethnic groups but also encompasses religious groups. Amplified by the recent inflow of refugees from the Middle East, *Muslim* immigrants and their descendants in fact occupy a center stage in public and scientific debates (Foner and Alba 2008; Maxwell and Bleich 2014; Voas and Fleischmann 2012).

Yet, while both scholars and the broader public fiercely debate the consequences of a rising share of Muslim population for societal coexistence, we still know surprisingly little about *how religion and religiosity affect friendship choices* of adolescents in Western Europe. On the one hand, youths may tend to befriend peers of the same religion, and this religious homophily might be more pronounced among those who are highly religious (Verkuyten and Thijs 2010b). On the other hand, religion may also prevent youths from befriending members of religious out-groups, which again might depend on individual religiosity. Most existing studies cannot answer these questions because they only focus on the intra-group side of friendship formation and neglect the potential importance of religiosity (e.g., Smith et al. 2014; Windzio and Wingens 2014).

Given persistent high levels of Muslim immigrants' religiosity (De Hoon and Van Tubergen 2014; Fleischmann and Phalet 2012; Jacob and Kalter 2013; Voas and Fleischmann 2012), another urgent question is *whether Muslim youths' religiosity hampers the development of their host country*



*identification.* While conventional wisdom holds that religiosity is a barrier to Muslims identifying strongly with European nations, several other factors may also be important for understanding Muslims' national identification (Maxwell and Bleich 2014), e.g., a lack of social integration (Maliepaard and Phalet 2012) or perceived discrimination (Helbling 2014; Savelkoul et al. 2012). Large-scale explanatory research is lacking, though.

So far, our knowledge about the driving forces behind Muslims' social and emotional (dis-)integration is, at best, incomplete. Research on how religion and religiosity affect immigrants' social and emotional integration therefore is desperately needed to gain more insights into the overall process of immigrants' integration.



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