Integration in schools

Stark, T.H.

Chapter 1

Introduction

"All educational policies must recognize the legitimacy and importance of the aim of racial integration. But we should not confound it with the aim of increasing equality of educational performance."

James S. Coleman (1966)

1.1 Introduction

The ethnic diversity[1] of almost all western societies has considerably increased over the past few decades. This increase has often been accompanied by many immigrants being in an economically disadvantaged position in their host society. Research has revealed that immigrants tend to earn lower wages than natives, and that the unemployment rate is much higher among people with an immigrant background (Alba & Nee, 1999; Borjas, 1994). Scholars have identified immigrants' lower human and social capital as being the main reasons for these disadvantages in the host societies. The *human* capital perspective argues that these disadvantages persist because a low level of education and insufficient knowledge of the host country's language prevent immigrants from securing good jobs (Chiswick & Miller, 2002). From a *social* capital perspective, immigrants are disadvantaged because they often have few, if any, relationships with native inhabitants who might be able to provide them with information about the host society and the labor market (De Vroome & Van Tubergen, 2010; Kanas & Van Tubergen, 2009).

To improve both the human and social capital of immigrants, many policymakers and social practitioners endorse integration into the host society as a solution. Integration is often understood in terms of social relationships between members of the ethnic majority and immigrants, and also in terms of positive attitudes of members of both groups towards the respective other (the outgroup). The idea is that when immigrants have contact with the native population this will lead to the development of social relationships beyond the own ethnic group and improve

[1] U.S. scholars typically study segregation based on race, while European researchers typically focus on segregation along ethnic lines. The mechanisms and processes studied in this book are applicable for both concepts. Because the empirical chapters use data from the Netherlands, the term "ethnicity" will mainly be used in the remainder of the text. According to the definition of ethnicity by Statistics Netherlands, a person is classified as an ethnic minority member if at least one of the parents was born abroad.

immigrants' language abilities. Moreover, it is argued that such interethnic relationships, along with positive attitudes towards other ethnic groups, increase a society's social cohesion.

To achieve these goals, it is often suggested that integration should already take place during childhood and adolescence, because experiences from these periods have been found to influence both aspects of integration – that is, people's intergroup attitudes and their social integration (interpersonal relationships with people from other ethnic groups) later in life (Ellison & Powers, 1994; Patchen, 1982; Sigelman, Bledsoe, Welch, & Combs, 1996). Accordingly, in many western countries such as the U.S. or the Netherlands, it has become a desirable goal to have desegregated schools that mirror the ethnic composition of the neighborhood they serve (Karsten, Ledoux, Roeleveld, Felix, & Elshof, 2003; Moody, 2001).[2] Schools that deviate from this standard are often called "too white" or "too black" in the Netherlands, indicating their social undesirability (Karsten et al., 2006).

However, focusing on the potential for positive outcomes resulting from students' integration is only one perspective of the societal debate about ethnic mixing in schools. The other perspective is concerned with students' academic achievement, and quite different conclusions about mixing are arrived at from here. A meta-analysis of both the international and the Dutch literature as to the association of ethnic mixing in schools with students' achievement has concluded that ethnic diversity has a very weak but *negative* effect on school achievement (Driessen, 2007). Many parents also seem to expect negative effects on students' performance from mixing, as the tendency towards "white flight" would suggest (Karsten et al., 2006; Logan et al., 2008). Instead of sending their children to a school in their own neighborhood which has a higher percentage of students with an immigrant background, many native-Dutch parents bring their children to schools with a more native-Dutch student population in other neighborhoods (Karsten et al., 2003). In the U.S., where attendance at a school in one's own district is generally mandatory, parents even move to neighborhoods with more favorable racial compositions (Coleman, 1975; Logan et al., 2008). Native-Dutch parents' negative expectations may even have been reinforced by the attention that the Dutch media has paid to some scientific studies that apparently found a severe negative relationship between ethnic

[2] Because of residential segregation, even schools that mirror the ethnic composition of their catchment area may not provide the opportunity for contact between ethnic majority and minority students (Logan, Oakley, & Stowell, 2008). Accordingly, policies such as "busing" have been implemented, by means of which students are transported to schools in a different neighborhood. These policies are considered very controversial and are generally not very successful (Olzak, Shanahan, & West, 1994).

composition and school performance.[3] The lack of scientific evidence for positive effects on students' performance from mixing eventually made the Dutch government decide in February 2011 that desegregation of schools was no longer a political goal and, thus, that there would be no support for any new desegregation laws or interventions.[4]

Naturally, many endorsers of ethnic mixing, brimming with indignation after this announcement, argued that the government, with its focus on academic achievement, had overlooked the positive effects of mixing on integration.[5] Already in the famous Coleman report (Coleman et al., 1966), it had been argued that integration can have positive effects on both educational outcomes and integration but that those two goals should be valued and evaluated separately. However, in conflict with supporters' argument is the fact that the scientific evidence does not consistently support the reasoning that interethnic mixing in schools benefits students' integration in terms of more positive attitudes towards other ethnic groups and social relationships with members of ethnic outgroups (Bakker, Denessen, Pelzer, Veneman, & Lageweg, 2007; Moody, 2001; Vervoort, Scholte, & Scheepers, 2011). While some studies did indeed find a positive effect from ethnic mixing on students' attitudes and interethnic friendships (e.g., Ellison & Powers, 1994; Quillian & Campbell, 2003), others found no such effect at all (e.g., Vermeij, Van Duijn, & Baerveldt, 2009; Wagner, Hewstone, & Machleit, 1989), and some studies even showed an increase in negative attitudes (Vervoort et al., 2011) and fewer interethnic friendship relationships (Moody, 2001) in ethnically more diverse classrooms or schools. In 2007, the Dutch newspaper *De Volkskrant* reported on one of the studies that did not find a relationship between ethnic class composition and attitudes towards ethnic minority groups (Bakker et al., 2007) and concluded: "Contact says little about attitudes: some children do not have a single friend from another ethnic group but still have positive attitudes."[6]

Moreover, actively promoting integration in an ethnically mixed setting does not always have the desired positive effect, as an anecdote from my fieldwork illustrates: In the summer of 2007, youth workers in Arnhem, a mid-sized city in the Netherlands with highly ethnically heterogeneous city districts (some with more than 50% minority-group inhabitants), tried to reduce ethnic segregation in the friendship groups of their teenage clients. The idea was to organize a hip-hop afternoon, because

[3] *Trouw*, June 18, 2010: Prestaties slechter op gemengde school; De Volkskrant, February 12, 2011: Het probleem is dat we mengen het toppunt van beschaving vinden.

[4] *De Volkskrant*, February 7, 2011: Interview met Marja van Bijsterveldt, minister van onderwijs, cultuur en wetenschappen.

[5] *NRC Handelsblad*, February 8, 2011: Zwarte school: fijn, in de buurt. Trouw February 8, 2011: Moeten we het maar laten zoals het is?; 'Accepteren lost segregatieprobleem niet op' 'Kind moet kleur zien in zijn klas'; *De Volkskrant*, February 16, 2011: Interview onderwijsonderzoeker Joep Bakker.

[6] *De Volkskrant*, September 8, 2007: Ahmet is aardig, Turken niet.

this musical genre was popular at that time among teenagers from all ethnic groups. The youth workers prepared composing, beatboxing, and dancing workshops, hired a professional hip-hop artist, and invited participants through schools and youth centers. The youth workers expected that resentments between ethnic groups would diminish once the participants realized that they shared a common interest in hip-hop music. Unfortunately, reality did not meet their expectations, and the afternoon ended in a disaster. Instead of friendships, verbal arguments developed between the ethnic groups that eventually ended in fights.

The research presented in this book sheds new light on the question of why interethnic mixing – even with the best of intentions – does not necessarily improve integration and under which conditions it does. In two sections, my coauthors and I first investigate how mixing affects students' attitudes towards other ethnic groups and, second, why mixing can sometimes reduce and in other instances intensify ethnic segregation in students' social relationships. The focus is on both aspects of integration, because earlier research has indicated a direct link between the two: Students with more friends from another ethnic group have been found to develop more positive attitudes towards this group over time (Binder et al., 2009; Feddes, Noack, & Rutland, 2009). Moreover, in Part I of this research it will be shown that promoting such positive interpersonal relationships prevents the development of negative attitudes towards other groups.

The central innovation of this book is its focus on the *processes* that take place in ethnically mixed classrooms. In the following sections, we argue that previous research may have overlooked some important consequences of mixing, because it restricted itself to correlational data. Instead of investigating what actually happens in an ethnically mixed classroom over time, it was generally assumed that having the opportunity to interact with classmates from other ethnic groups would eventually improve students' attitudes or lead to interethnic friendships. The present research will first show that the social processes behind contact in a classroom are more complex than that and can also result in negative interpersonal relationships. Therefore, we go on to identify those conditions, under which positive or negative consequences might be expected to occur.

In Part I, we investigate the effects of negative interpersonal relationships on students' interethnic attitudes. We argue that during the process of interethnic interaction in school classrooms not only do friendships but also disliking relationships develop among classmates, and that these relationships may affect interethnic attitudes negatively. We start off by investigating whether this idea offers any explanation for the mixed findings found in earlier research as to the relationship between interethnic mixing and students' attitudes. For this analysis, we do not examine the process of attitude formation directly but analyze the relationship between having had the opportunity to interact with minority group classmates, and the students' attitudes towards these groups. This approach is chosen in order to

adhere as closely as possible to the research strategy found in earlier studies on ethnic mixing in school classrooms so that our results can be directly compared to previous findings. In a subsequent step, we then test whether the underlying dynamics of attitude change do actually follow the assumed process of generalization from negative contact experiences.

Part II of this research goes on to focus on the development of one of the most important determinant of positive interethnic attitudes: students' friendships with members of other ethnic groups. First, we examine the process in which intervention programs can promote positive interpersonal relationships that cross ethnic boundaries. Building on classical sociological concepts concerning social affiliations, we identify those situations in which intervention programs might succeed in reducing ethnic segregation in school classrooms, and those situations in which they might backfire and intensify that segregation. In the second study found in Part II, we develop an explanation for the mixed findings of earlier research concerning the relationship between ethnic mixing in schools and students' interethnic friendships. It is argued that, if the process behind friendship development has not been taken into account, wrong conclusions can be drawn about students' preference for friends from the same or other ethnic groups.

The remainder of this introduction will be structured as follows. In the next section, I discuss in more detail the two aspects of integration that are the focus of the current research. Subsequently, I present the limitations found in earlier research on integration in school classrooms that we will be addressing in this book. A discussion of the research questions guiding the individual chapters will then follow. In a subsequent step, I present the data used in the empirical chapters of this book. A brief overview of all the chapters will conclude the introduction.

1.2 Interethnic Integration

Interethnic integration is used as a very broad concept in the scientific literature. The research in this book focuses on those two dimensions of integration that are closely related: social integration and interethnic attitudes. Social integration refers to the existence of interpersonal relationships between immigrants and native members of the host society. Interethnic attitudes refer to the perceptions that members of different ethnic groups have about other ethnic groups. Integration is considered successful from a minority perspective if immigrants possess positive perceptions about the majority group. Likewise, integration is successful if the majority holds positive attitudes towards ethnic minority groups.

Social Integration

As mentioned earlier, social relationships with majority group members directly benefit immigrants in terms of their language abilities (Espinosa, 1997), and they facilitate their access to the labor market (Kanas, Van Tubergen, & Van der Lippe, 2009). Van Tubergen (2010) recently argued that it is important to promote social

relationships starting already at an early age, because the ethnic composition of social networks may persist and determine the development of children over time. Many immigrant children grow up with parents who do not speak the host country's language very well, and who possess limited information about the host society and the labor market. Having close interpersonal contact with friends from the majority group helps to cope with these unfavorable aspects of their family background. Learning the language and the host society's culture during childhood through friendships with natives may grant access to majority-group-dominated networks at a later stage in life.

If ethnic segregation persists and minority members only have relationships within their own group, the gap between minority and majority-group children grows over time in the sense of a Matthew effect (Merton, 1968; Van Tubergen, 2010). In segregated networks minority-group children's friends most likely also struggle with those same unfavorable aspects of their family backgrounds, so they cannot help each other learn the skills necessary to flourish in the host society. To cope with their disadvantaged situation, alternative routes may be chosen that can lead to antisocial behavior. In contrast, majority-group members start from a more favorable family background, and they can derive additional benefits from information from their native contacts as they grow up. In the end, this might broaden the gap between them and minority-group members even further.

Several forms of interpersonal relationships between members of the native ethnic majority and minority groups have been used as indicators of social integration in earlier research. Personal interaction (Wimmer & Lewis, 2010) and helping relationships (Baerveldt, Van Duijn, Vermeij, & Van Hemert, 2004) are examples found in the literature, but the most prominent of these are interethnic marriage (Kalmijn & Van Tubergen, 2010; Qian & Lichter, 2007; Van Tubergen & Maas, 2007) and interethnic friendships (Kao & Joyner, 2004; Moody, 2001; Mouw & Entwisle, 2006; Quillian & Campbell, 2003; Van Houtte & Stevens, 2009). Assessing integration in terms of interpersonal relationships hence implies that members of both ethnic minority and majority groups play a role in the integration process.

Interethnic Attitudes

The other aspect of integration, people's attitudes towards other ethnic groups, has been assessed in various ways (for an overview, see Hewstone, Rubin, & Willis, 2002). The most prominent measurements here are the cognitive attribution of group characteristics (i.e., stereotypes, see Judd, Park, Brauer, Ryan, & Kraus, 1995; Kamans, Gordijn, Oldenhuis, & Otten, 2009), evaluations of the outgroup (i.e., prejudice, see Garland, Stark, & Krosnick, under review; also Sears & Henry, 2005; Stark, Sargent, Rabinowitz, Shull, & Krosnick, 2010), and preferred social contact with the outgroup (i.e., social distance, Huijnk, Verkuyten, & Coenders, 2010; also Verkuyten & Kinket, 2000). But there are also implicit measurements which have been developed (Fazio & Olson, 2003) that assess automatic, unconscious responses to the outgroup.

In the present research, my coauthors and I followed earlier studies that investigated intergroup attitudes among students and measured these attitudes as cognitive attributions of positive group characteristics: a measurement that has been called "social stereotyping" (Gijsberts & Dagevos, 2005; Vervoort et al., 2011). Interethnic attitudes in this case were defined as a combination of respondents' beliefs about how probable a certain characteristic was for an ethnic group and an evaluation of that group (Fishbein, 1963), as the appropriateness of positive characteristics was assessed. The question was asked, for example, to what extent students agreed with the proposition that "all Turkish people are honest." Only positive characteristics were examined because developmental research indicates that children older than seven years (the participants in our studies were older) are less willing to discriminate between social groups in terms of negative dimensions, whereas they will do so in terms of positive traits (Bennett et al., 2004; Bennett, Lyons, Sani, & Barrett, 1998; Bigler, Brown, & Markell, 2001; Rutland et al., 2007). This is known as the positive-negative asymmetry effect in social discrimination (Mummendey & Otten, 1998; Otten, Mummendey, & Blanz, 1996).

From Social Integration to Interethnic Attitudes

The present research investigates integration in terms of the behavioral dimension of social integration and in terms of the cognitive dimension of interethnic attitudes, because a direct link exists between both aspects of integration. Dating back to Allport's (1954) famous contact hypothesis, many scholars have argued that direct contact between members of different ethnic groups provides them with positive intergroup experiences that eventually translate into more positive attitudes towards the ethnic outgroup as a whole (for overviews, see Brown & Hewstone, 2005; N. Miller, 2002; Pettigrew, 1998; Pettigrew & Tropp, 2006). The original contact hypothesis holds that intergroup contact improves intergroup attitudes in situations where four structural conditions are met: the groups have equal status; the groups have goals in common; there is intergroup cooperation; and there is support from authorities, law, or custom (Allport, 1954). By now, the positive effect of contact has been well established. An extensive meta-analysis of contact hypothesis research has found that intergroup contact has a weak but positive effect on intergroup attitudes; however, it has also revealed that Allport's conditions are by no means necessary for this positive effect to occur (Pettigrew & Tropp, 2006). Consequently, researchers' attention has shifted from those situational factors that may enhance cognitive processes, such as learning about the outgroup (Stephan & Stephan, 1984), to affective processes that are less determined by the contact situation than by the actual form of the intergroup contact (Brown & Hewstone, 2005).

It has been argued that affective intergroup experiences in close interpersonal relationships (such as friendships) between members of different ethnic groups lead to more positive attitudes towards the other group, in general terms (Pettigrew, 1998). This means that social integration among both minority and majority

members should eventually make them perceive the other ethnic group more favorably. In line with this reasoning, several studies have shown that students with friends from other ethnic groups hold more positive attitudes towards these groups (Swart, Hewstone, Christ, & Voci, 2010; R. N. Turner, Hewstone, & Voci, 2007; Vervoort et al., 2011; Wagner, Van Dick, Pettigrew, & Christ, 2003). The same has also been found among adults (McLaren, 2003; Pettigrew, 2008; Schlueter & Scheepers, 2010; Wagner, Christ, Pettigrew, Stellmacher, & Wolf, 2006). In fact, the positive effect of social integration in the form of interethnic friendships seems to be so strong that, according to the "extended contact hypothesis" (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997), the mere knowledge that an unknown ingroup member has befriended an outgroup member already improves the perception of the outgroup (Pettigrew, Christ, Wagner, & Stellmacher, 2007; R. N. Turner, Hewstone, Voci, & Vonofakou, 2008).

The link between social integration and intergroup attitudes highlights the importance of this book's focus on processes. For a long time it was unclear whether the causal sequence went from having intergroup contact to having more positive attitudes towards the outgroup or the other way around, meaning that more positive attitudes made people more readily engage in intergroup contact (Pettigrew, 1998). Only a few longitudinal studies have looked into the causal effects of contact, and even fewer investigated the causal relationships between affective intergroup relationships and attitude change (Pettigrew, 2008; Pettigrew & Tropp, 2006). The few longitudinal studies conducted found – again in the school context – that the causal direction went mainly from direct and indirect (extended) intergroup relationships towards attitude change, and not the other way around (Binder et al., 2009; Brown, Eller, Leeds, & Stace, 2007; Feddes et al., 2009).

1.3 Limitations in Past Research

Lack of Focus on Process

As indicated in the introduction, the scientific evidence on the relationship between interethnic mixing in school classrooms and intergroup attitudes is far from conclusive. Some studies found that more interethnic contact opportunities at school predicted positive attitudes towards other ethnic groups during childhood, and also later on in life (Ellison & Powers, 1994; Patchen, 1982; Wagner et al., 2003; Wood & Sonleitner, 1996). However, other studies found no, or even a negative relationship between school or classroom diversity, and interethnic attitudes (Bakker et al., 2007; Bekhuis, Ruiter, & Coenders, 2009; Vervoort et al., 2011; Wagner et al., 1989). What all these studies have in common is that they have not examined the process in which potential interethnic contact in schools may affect students' attitudes towards ethnic outgroups.

No previous research on the effect of classroom composition has had a truly longitudinal design, which makes conclusions about a causal effect on students'

attitudes difficult. Only Ellison and Powers (1994), as well as Wood and Sonleitner (1996), used retrospective questions, and found that adults who had more interethnic contact (opportunities) in school held more positive attitudes about outgroups. However, concluding from these studies that interethnic contact in school is beneficial for people's attitudes is problematic because of potential memory failures (e.g., Stocké & Stark, 2007) when people have to recall past contact experiences (e.g., people with more positive attitudes may think that they had more contact in school), and because it is not clear whether there were any initial differences between respondents during childhood (e.g., children from families with more positive attitudes may have more often been send to ethnically mixed schools).

Moreover, without assessing the actual process that took place within ethnically mixed school classrooms, previous studies have relied heavily on the assumption that intergroup contact in a school classroom is inevitable (Vermeij et al., 2009; Vervoort et al., 2011). These studies departed from Allport's (1954) contact hypothesis and hypothesized that being in a school class with ethnic minority members should improve ethnic majority students' attitudes towards these group, simply because contact has been found to be beneficial for outgroup attitudes. This reasoning is presented in Panel A of Figure 1.1.

Social psychologists, however, have argued instead that giving people the opportunity to interact (e.g., being part of the same school classroom) does not imply that they actually do have contact (Wagner et al., 2006; Wagner et al., 2003). Based on the development in contact hypothesis research that was discussed in the last section, they argued, that a positive effect on intergroup attitudes could only be expected from

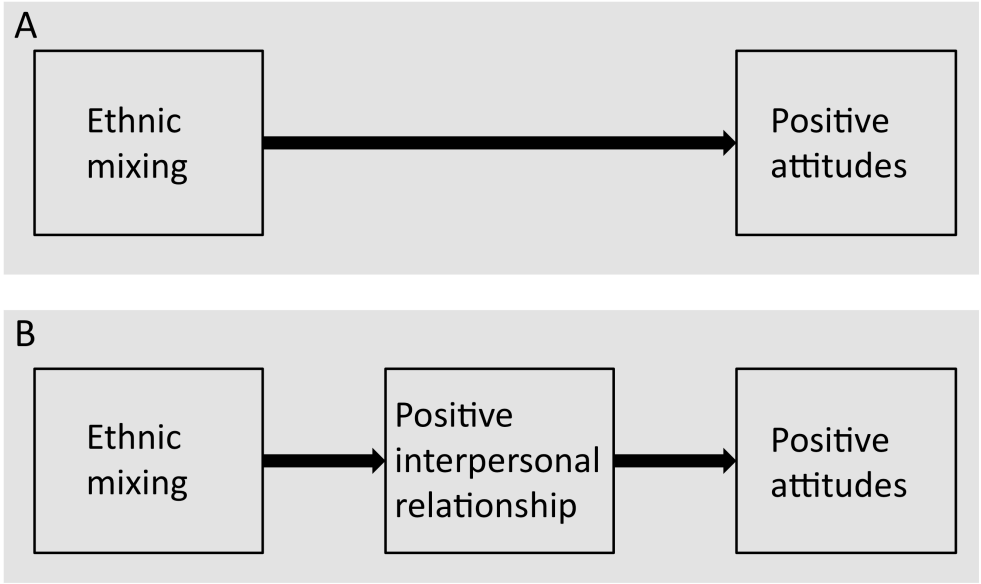

Figure 1.1. Models of the effect of ethnic mixing in school classes on students' interethnic attitudes as used in previous research. (A) Contact in school classes is inevitable so that mixing should have a positive effect on interethnic attitudes. (B) Mixing merely offers the opportunity for interethnic contact in terms of positive interpersonal relationships with outgroup members which in turn improves students' attitudes towards these outgroups.

actual interaction in close interpersonal relationships such as friendships. This process is depicted in Panel B of Figure 1.1. First, ethnic mixing in a school class may lead to the development of positive interpersonal relationships between classmates from different ethnic groups. Actual contact takes place within these relationships and students' may generalize from these contact experiences to form their attitudes towards the ethnic outgroup of their classmate in general. Accordingly, earlier research may have found no effect from classroom composition, because although students had the opportunity to interact with ethnic outgroup classmates, they did not do so. Still, this cannot explain the finding of negative effects from being in an ethnically mixed school class, because not having contact should not be associated with worsening of attitudes.

It has also been argued that there is a direct link between the opportunity for contact and the actual development of real contact in terms of, for example, friendship or helping relationships (Wagner et al., 2006; Wagner et al., 2003), yet the scientific evidence for this claim is also inconclusive. There are indications that more interethnic contact opportunities during school time are related to more cross-ethnic friendships in school (Hansell & Slavin, 1981; Quillian & Campbell, 2003; Van Houtte & Stevens, 2009), and later on in life (Emerson, Kimbro, & Yancey, 2002; Sigelman et al., 1996). However, other research did not find any clear relationship between classroom ethnic diversity and cross-ethnic friendships (Vermeij et al., 2009). Moody (2001) even found that the likelihood for cross-ethnic friendships decreased with an increase in ethnic heterogeneity in schools. These conflicting findings point to the conclusion that simply mixing students from different ethnic groups is insufficient in order to establish actual social integration and to improve students' interethnic attitudes.

Unraveling the processes that take place in a school class using a longitudinal design allows most of the shortcomings of earlier research to be overcome. First, memory failures are not a problem if students' current rather than their past relationships and attitudes are assessed. Second, no strong assumptions about students' initial attitudes are necessary. Instead, attitudes can be measured before interethnic contact actually takes place, and later be accounted for, so that any development of interethnic attitudes can be causally attributed to the contact experience. Third, such a design would allow us to test whether it is the class composition (opportunity for contact) or interpersonal relationships (actual contact) that determines the development of students' interethnic attitudes. Finally, in a longitudinal design it is possible to check whether the causal effect actually goes from interpersonal contact towards students' interethnic attitudes, or the other way around, which would then mean that students' attitudes are what determine their social relationships (Binder et al., 2009).

Positivity Bias

Although simply mixing does not seem to improve students' interethnic attitudes, there is no doubt that actual intergroup contact (i.e., interaction in interpersonal relationships) does have a positive effect. As mentioned earlier, Pettigrew and Tropp (2006) revealed in their meta-analysis of 515 studies concerning the contact hypothesis conducted between 1940 and 2000 that intergroup contact had overall a positive, though weak, effect on intergroup attitudes. However, they also found a large variation when it came to the extent of this effect across the studies. Just as in the research on school class composition, some studies found a strong positive effect, whereas others showed no such effect, while some even revealed a negative effect. Although the overall effect is positive, the question remains as to how this variation came about.

Most strikingly, Pettigrew and Tropp (2006) diagnosed a positivity bias in the literature on the contact hypothesis. Because most studies focused only on ways to improve intergroup attitudes, the potentially negative consequences of contact might have been overlooked. In fact, negative contact effects have been identified as one of the directions intergroup contact research should pursue in future (Pettigrew, 2008), but only a few studies have followed this lead so far (Bekhuis et al., 2009; Paolini, Harwood, & Rubin, 2010). None of these investigations has yet addressed the process in which negative contact experiences might be generalized in terms of more negative attitudes towards outgroups as a whole. Thus, it remains unknown whether negative contact effects resemble the well-established positive contact effects.

Focus on Single Ethnic Groups

A general pattern found in most studies on intergroup contact in schools is that the effect of class composition or friendship relationships on intergroup attitudes is assessed only from a majority-group perspective (for exceptions, see Swart et al., 2010; Vervoort et al., 2011), and only towards one ethnic outgroup. In other words, what is being investigated is how, for example, interethnic friendships relate to the attitude (or change in attitude) of members of the majority towards immigrants in general. However, studies in the Netherlands have indicated that students evaluate the social distance to various ethnic groups differently, and prefer contact with some groups over others (Verkuyten, Hagendoorn, & Masson, 1996; Verkuyten & Kinket, 2000). It is thus possible that the process behind contact effects varies among ethnic minority groups with which the majority group interacts. Moreover, some studies have indicated that intergroup contact effects are stronger for majority than for minority members (Swart et al., 2010; Tropp & Pettigrew, 2005). Given that integration is a two-way street, it is necessary not only for the majority but also for the minority group to have positive attitudes towards the other group. Hence, contact effects should also be studied from a minority-group perspective, and towards different ethnic groups.

Inappropriate Statistical Methods

Already in the 1980s, quite a number of studies investigated students' choice of friends from other ethnic groups (Hallinan & Smith, 1989; Hallinan & Sorensen, 1985; Hallinan & Teixeira, 1987; Hallinan & Williams, 1989; Patchen, 1982). In this work, the general finding was that students preferred friends from their own ethnic group as opposed to friends from other groups. However, these early analyses but also a very recent study of students' friendship relationships (Jugert, Noack, & Rutland, 2011) treated each friendship choice in a social network as an independent decision from which students' preferences could be inferred (Wimmer & Lewis, 2010). But people tend to reciprocate a friendship, and friendships are often transitive, which means people tend to be friends with their friends' friends (Davis, 1970; Heider, 1946). Accordingly, a student does not base his or her decision to become friends with someone solely on the characteristics of that person. Instead, existing affiliations are taken into account as well. Thus, friendship decisions are affected by the network of current friendship relationships of a student (so-called "structural effects" of the network) and, thus, are not independent from each other (Quillian & Campbell, 2003; Snijders, Van de Bunt, & Steglich, 2010).

Ignoring this dependency in social networks can lead to an overestimation of the effects of individual or dyad-level characteristics that may also influence friendship decisions (Goodreau, Kitts, & Martina, 2009; Mouw & Entwisle, 2006). If, for example, two students from the same ethnic group form a friendship because they have a third friend in common, ignoring their tendency for transitivity would incorrectly lead to an overestimation of their preference for intra-ethnic friends. Recently developed advanced statistical methods allow such structural effects of a network to be disentangled from other mechanisms that may shape a network, such as the preference for friends from the same ethnic or racial group. Wimmer and Lewis (2010), for instance, have shown that the estimation of college students' tendency to affiliate with students of the same race was reduced by up to 80 percent once structural effects were controlled for. Thus, it is essential to apply appropriate statistical models to the analysis of interpersonal relationships that are embedded in social networks.

Inferring Preferences from Cross-Sectional Network Data

Conclusions drawn about processes, using advanced statistical methods, may also be misleading, however, if they are based on correlational data. Even in the more recent literature on students' social networks, there exists a tendency to infer students' preferences for friends from the same ethnic group from cross-sectional data (e.g., Moody, 2001; Mouw & Entwisle, 2006; Quillian & Campbell, 2003). But such data only represent the structure of a given friendship network, and do not reveal the process by which it emerged. One might, for example, find a tendency towards ethnic segregation in a cross-sectional friendship network; however, this should not allow one to conclude that it was the students' preferences for friends from the same ethnic

group that led to this pattern of segregation. We argue in Chapter 5 of this book that the standard specification of statistical models for analyzing cross-sectional network data can lead to misleading results. Explicit modeling of the process that has shaped a network may help in correctly specifying such statistical models.

Interpretations of underlying processes in terms of students' preferences become even more problematic when students' preferences for friends with certain changeable characteristics are investigated. For instance, the finding by Wimmer and Lewis (2010) of similar musical tastes among friends in a college students' friendship network need not have been caused by these students having selected friends with the same musical taste. This pattern might have also been caused by students selecting each other as friends for other reasons, and then influencing each other's music taste after becoming friends. Only with longitudinal social network data and the appropriate statistical models is it possible to disentangle such influences from selection processes, and then to draw an inference about causal processes.

1.4 Research Questions

The most consistent finding in the literature on ethnic mixing in schools is that the effect of mixing on students' integration is inconclusive. Given this situation, the aim of our research is not simply to add yet another study on ethnic mixing with yet another positive or negative conclusion about the consequences of ethnic mixing to the literature. Instead, the starting point of our research is the question: Why does mixed evidence exist in the literature? Earlier studies have explained positive effects of contact in schools through use of Allport's (1954) contact hypothesis and, in order to explain the negative effects of contact, have referred to ethnic competition theory (e.g., Moody, 2001; Vermeij et al., 2009; Vervoort et al., 2011). This theory states that majority group members feel threatened by an outgroup that approaches the numerical majority, and that they react with an increase in negative attitudes towards this group (Blalock, 1967; Quillian, 1995). Although ethnic competition might well play a role in the intergroup contact process, it cannot be the sole explanation for these mixed findings, since other school studies that did not find a positive contact effect also did not find any negative threat effect either (Bakker et al., 2007).

The present research pursues an alternative explanation for these mixed findings, one which follows from the positivity bias that Pettigrew and Tropp (2006) diagnosed in their extensive meta-analysis. Previous studies on ethnic mixing in schools have assumed that intergroup contact can have either positive effects or that it can backfire as a direct consequence of the ethnic majority group facing a large-sized minority group. However, Pettigrew (2008) argued that the opportunity for contact can have negative effects on intergroup attitudes, independent of the outgroup size. Earlier research had already established that attitudes were affected not by the mere opportunity for contact but by actual contact in terms of interpersonal relationships such as intergroup friendships (Wagner et al., 2006).

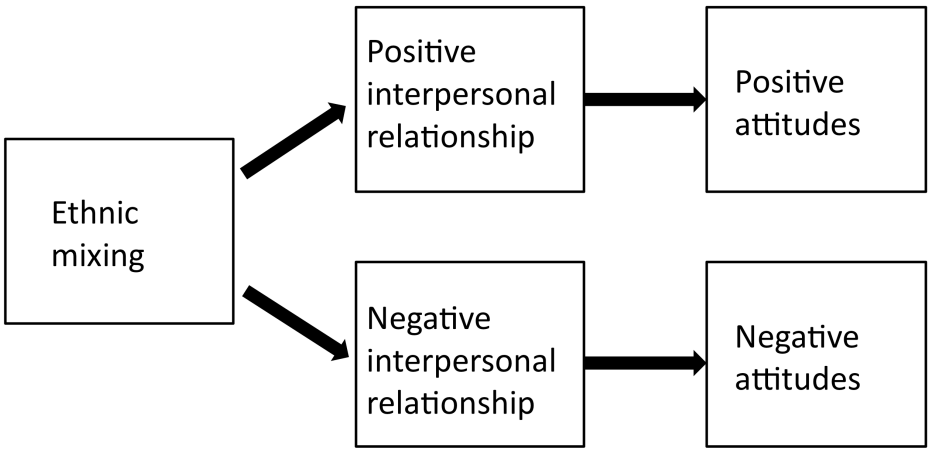

Figure 1.2. Model of the effect of ethnic mixing in school classes on students' interethnic attitudes as used in the present research. Ethnic mixing can lead to actual contact between students from different ethnic groups in terms of positive or negative interpersonal relationships. Students subsequently generalize from these experiences to form their attitudes towards the ethnic outgroup in general.

Pettigrew (2008) added that interpersonal relationships are not necessarily positive but can also turn negative. Accordingly, he then argued that intergroup contact experiences can be negative.

The model of the process behind intergroup contact in school classes that we assume in this research is presented in Figure 1.2. Just like in earlier research on the contact hypothesis, we assume that affective processes determine the outcome of the contact encounter. Ethnic mixing in a school class merely offers the opportunity for affective relationships to develop. However, in contrast to most of the earlier studies, we assume that this opportunity for intergroup contact may not lead to students having actual contact in terms of positive relationships alone; this contact may also lead to negative contact experiences with classmates from other ethnic groups.

In the first step of our research, we did not examine whether our assumption about the process behind contact depicted in Figure 1.2 is correct or not. Instead it was investigated whether including negative contact effects into the study of ethnic mixing in school classes did help us understand the conflicting findings of earlier research on this matter. In Research Question 1, we therefore examine whether the overall effect of mixing depends on the distribution of these positive and negative contact experiences in a school classroom.

> RQ 1: Can the mix of positive and negative contact experiences explain why the proportion of classmates from a minority group relates sometimes positively and other times negatively to majority students' attitudes towards this minority group?

Our argument about the effect of ethnic classroom composition depends crucially on the assumption presented in Figure 1.2 that negative interpersonal contact

experiences are generalized to create outgroup attitudes in the same fashion as has been established for positive contact experiences. In the last decade, research has made tremendous progress in understanding which processes translate positive intergroup contact into more positive intergroup attitudes. For example, studies have revealed that reduced intergroup anxiety (Binder et al., 2009), fewer perceived threats to the self and the ingroup (Pettigrew et al., 2007), perceived ingroup and outgroup norms (R. N. Turner et al., 2008), and self-disclosure (R. N. Turner et al., 2007) mediate positive contact effects. However, as negative contact effects have only recently come to the attention of contact hypothesis scholars, the process behind negative intergroup contact effects has been studied far too little. Paolini and colleagues (2010) found that the ethnic category salience during an intergroup contact encounter was higher when the contact experience was negative than when it was positive. This may indicate that negative contact experiences are more readily generalized than positive ones; however, this hypothesis has still to be tested.

Only a few studies have directly addressed the association between negative contact experiences and intergroup attitudes (Bekhuis et al., 2009; Pettigrew, 2008). These studies, however, have remained only on the group level in that they investigate how negative (and positive) contact experiences with the outgroup as a whole are related to negative (positive) attitudes towards the group in general. In so doing, they have overlooked the fact that, in the first place, intergroup contact takes place between individuals (Pettigrew, 1998). Moreover, using cross-sectional data, these studies could not investigate the process, in which negative contact experiences generalize to form more positive attitudes. Although these studies did advance the research into negative contact effects, they may accordingly have suffered from an endogeneity problem. Ethnic prejudice may have led respondents in these studies to report more negative contact experiences in the first place, or to rationalize the contact experience afterwards as being more negative so that it fitted with their attitudes.

Research Question 2 addresses this shortcoming by focusing on the process behind positive and negative contact effects. Making use of longitudinal data, the causal direction between contact experiences and intergroup attitudes will be examined. This will allow us to test whether negative *interpersonal* contact experiences with outgroup members are indeed generalized to create attitudes towards the outgroup in general, or whether negative attitudes lead to the perception of interpersonal contact experiences being negative.

> RQ 2: Do positive and negative intergroup contact experiences generalize to form intergroup attitudes in the same way?

Given the importance of positive interethnic relationships (especially friendships) in the reduction of negative interethnic attitudes (Binder et al., 2009; Feddes et al.,

2009; Pettigrew et al., 2007; R. N. Turner et al., 2007; Wagner et al., 2003), high levels of ethnic segregation in students' friendship networks are a serious concern (Moody, 2001; Quillian & Campbell, 2003; Vermeij et al., 2009). One of the main mechanisms that has been identified as causing ethnic segregation is the homophily principle, the preference to affiliate with people who are similar (Lazarsfeld & Merton, 1954; McPherson, Smith-Lovin, & Cook, 2001). If ethnicity is a salient dimension for students' friendship choices, such a preference for friends from the same ethnic group (ethnic homophily) may lead to ethnic segregation in a network (Goodreau et al., 2009; Mouw & Entwisle, 2006).

Wimmer and Lewis (2010), however, have shown that a great deal of ethnic segregation in students' social networks can be wrongly attributed to students' preference for same-race or intra-ethnic friends. As mentioned earlier, network structural processes may play a role, but the authors have identified various other reasons, including the preference for friends with similar opinions or characteristics. Referring to Blau's (1977) analysis of cross-cutting social circles, Wimmer and Lewis (2010) argued that homophily on these dimensions can amplify ethnic segregation if such opinions or characteristics happen to be correlated with the ethnic background of the students. Thus, the homophily principle can increase ethnic segregation in two different ways, directly by ethnic homophily and indirectly by homophily on other characteristics that are correlated with ethnicity. Blau's (1977) analysis of cross-cutting social circles, however, went further than this. The central idea here was that a preference for affiliating with others who are similar on dimensions other than ethnicity can *reduce* segregation and increase integration if these other dimensions are *not* related to ethnicity. Hence, processes according to the homophily principle might sometimes increase and in other instances reduce ethnic segregation in a friendship network.

Research Question 3 advances Wimmer and Lewis's (2010) analysis of ethnic segregation by simultaneously addressing the positive and negative effects of homophily on other dimensions besides ethnicity. Moreover, taking again the process perspective, the causal mechanisms that shape friendship networks will be investigated. This will also allow us to disentangle selection from those influence processes which may have led to similarity among friends in a social network on these other dimensions, and which may have been wrongly interpreted as homophily (rather than just selection) in a cross-sectional analysis.

> RQ 3: Under what conditions does homophily on dimensions other than ethnicity reduce or increase ethnic segregation?

Just as in the literature on ethnic mixing and students' attitudes towards other ethnic groups, there are conflicting findings in the literature on mixing and students'

interethnic friendships. Some studies have found a positive relationship between the ethnic heterogeneity of a school and the number of interethnic friendship relationships (Hansell & Slavin, 1981; Van Houtte & Stevens, 2009). Yet one of the most puzzling findings in the literature is more segregation in ethnically more heterogeneous schools, even if homophily on many other dimensions was controlled for (Moody, 2001; Mouw & Entwisle, 2006). This is particularly striking because, as Feld and Carter (1998) have shown, the actual opportunity for friendship ties to form between majority and minority students is larger in more heterogeneous schools. This means, the greater the size of the ethnic minority group would be compared to that of the majority group, the greater would be the chances for interethnic friendships if students were just randomly selecting their friends from the school population.

However, this higher opportunity for intergroup ties to form in ethnically more heterogeneous schools may have very different consequences if students do not randomly select their friends. More heterogeneity also means that minority group students have more opportunity to find fellow minority students because the minority group is larger. Hence, a certain preference for friends from the same ethnic group might result in different levels of ethnic segregation in schools with different minority sizes. Earlier research tried to control for such opportunity effects by applying advanced statistical models (Lubbers, 2003; Moody, 2001; Mouw & Entwisle, 2006). Because opportunity could arguably no longer affect the results, these studies concluded that students' preferences must have been different in more heterogeneous schools (Moody, 2001; Mouw & Entwisle, 2006). It was argued that an increase in size of the minority group leads to active and purposeful reinforcement of intergroup boundaries in students' social networks (Vermeij et al., 2009).

However, all these studies based their conclusions on the analysis of cross-sectional data. As mentioned earlier, this does not allow for any strong inference about what process may have led to the pattern of segregation. Instead, researchers have been forced to make assumptions about this process in their statistical models in order to control for opportunity effects. For example, it was typically assumed that students' preference to have friends is independent of the current number of friends. The opportunity of two students being from the same ethnic group could then be taken into account in the statistical models. However, if such assumptions about students' preferences were incorrect, opportunity effects may have not been correctly controlled for. For instance, if students' preference for friends depends on the number of friends they already have, opportunity effects may affect segregation in more direct ways that were not accounted for by the models typically used in earlier studies. To explore this possibility, and assess to what extent the statistical models used in recent research allow inferences from effects of school composition on students' preferences for intra-ethnic friends, we address the following question:

RQ 4: How can segregation in more heterogeneous schools result from opportunity effects alone without students' preferences being affected by the school composition?

1.5 Data

The Arnhem School Study

The data used to answer these research questions in the empirical chapters of this book stem from The Arnhem School Study (TASS), a seven-wave longitudinal social network study that I initiated and coordinated during my PhD research.[7] This study consists of two modules: the primary school module with about 800 respondents in 36 school classes in 26 primary schools, and the secondary school module which comprises about 1350 students distributed across 61 school classrooms in 12 secondary schools. All the schools were located in the city of Arnhem, a mid-sized city in the Netherlands.

The idea behind this study was to follow one cohort of students who lived in ethnically diverse neighborhoods during their last two years of primary school and their first two years of secondary school. Of the primary school sample, 318 students eventually made the transition to one of the secondary schools in Arnhem. For this subsample it is possible to address questions on school transitions in future research. Some of the remaining students of the primary school sample transferred to schools outside the city, but most were in schools (n = 25) with so-called multi-graded classrooms in which children of different grades were taught together. Two thirds of the students in these classrooms were not in the highest grade, and thus did not transfer to secondary schools in 2008. Nonetheless the secondary school module comprises many more students, because all the new classmates of the students from our target sample also participated in the data collection.

The design of TASS had several advantages that enabled us to investigate the process behind social integration and attitude change. First, the fact that TASS was a longitudinal study allowed us to examine the actual process behind intergroup contact and students' integration. TASS is one of the few field studies on the contact hypothesis with more than two waves (see also Van Laar, Levin, Sinclair, & Sidanius, 2005). Second, in both the primary and the secondary school modules, whole school classrooms were targeted so that complete social networks with a meaningful boundary could be investigated (Snijders et al., 2010; Wasserman & Faust, 1994). This was achieved by not only approaching students from our target sample but also their classmates who were not in the same grade (in primary school) or who lived outside the ethnically diverse neighborhoods (in secondary school). Third, TASS had

[7] The seventh wave was coordinated by Anke Munniksma.

very high response rates because parents' consent for students' participation was requested in cooperation with the schools, and in four languages (Dutch, English, Arabic, and Turkish). This way, parents were assured that the schools supported our project, and those parents with an immigrant background may have felt they were being taken seriously. Response rates of about 94% in the primary school module and around 90% in the secondary school module enabled us to use social network analysis, a tool which requires near-complete data for accurate representation of classroom networks (Neal, 2008). Finally, the secondary school module of TASS allowed us to follow the evolution of interpersonal relationships and the development of interethnic attitudes from a natural starting point in a new social setting. Due to the school transition from primary school, class compositions changed so completely that students had to form many new interpersonal relationships with classmates. Our expectation was that these new contact experiences would be accompanied by more change in students' interethnic attitudes than those contact experiences that had been stable for a longer time.

Despite TASS being suitable for our purposes for many reasons, it also has two drawbacks. First, Dutch classrooms tend to be rather small as it is the case for most western countries. Class sizes ranged from as few as 9 students in one primary school classroom to a maximum of 30 students in one secondary school classroom. Such small numbers can lead to convergence problems in social network analysis, where rather complex models are estimated within each school class. Second, TASS is not a random sample, since all the schools were located in the city of Arnhem. Hence, it remains unclear whether the findings in our studies can be generalized to other settings. However, TASS does overcome one severe shortcoming from which a lot of other school studies (that claim to be random samples) suffer: Schools in TASS did not self-select into the sample. Instead of inviting a large number of schools to participate and then collecting data from those who volunteer, TASS followed another approach. All primary schools in or near the ethnically diverse neighborhoods in the city of Arnhem were individually approached by us or our partners in Arnhem, and were successfully convinced to participate in our study. The same was done for all secondary schools in Arnhem for our secondary school module.[8]

The Primary School Module

Data were collected at three points in time. The first wave took place at the end of the Dutch seventh grade (equivalent to the American fifth grade, average age = 11) of primary school (July 2007). Wave 2 (November 2007) and Wave 3 (April 2008) took place at an interval approximately five months later, when students were in grade eight, their final year of primary school. In Wave 1, 742 students participated in the study, and 751 students participated in both of the subsequent waves. The response

[8] With the exception of one secondary school for students with special needs.

rate was about 94% for each wave. At each assessment, students were asked to fill in a paper questionnaire under the supervision of a trained research assistant (or myself) so that confidentiality could be monitored and students' questions answered. The ethnic diversity of this sample was rather high, with children coming from as many as 69 different ethnic groups. There were questions about various social networks (friendship, helping, liking), students' attitudes towards different ethnic groups, and many youth-related opinions. Data from the primary school module will be used in Chapter 3 of this book.

The Secondary School Module

There were four measurement points in the second part of TASS. In this book, we made use of the data from the first three assessments during the students' first year of secondary education. The first wave took place in the second and third weeks after the students transferred to secondary schools (September 2008). Wave 2 was conducted about three months later (December 2008), and Wave 3 took place approximately six additional months later (June 2009). We deliberately chose a design in which the time intervals between the assessments were not equal but in which twice as much time passed between Waves 2 and 3 as did between the first two waves. Such a design is recommended for situations in which social relationships are studied between individuals who have met for the first time, because more change can be expected to happen right after the initial meeting than at a later point in time (Veenstra & Steglich, 2012).

On the days of data collection, all students from a classroom simultaneously completed the questionnaire online on separate computers in a school computer lab. A teacher read instructions to the students, and supervised completion of the questionnaires. Sixty-one (88.4%) of all first-year classrooms in secondary schools in the city of Arnhem took part in our study. About 90% of the 1350 students in these classrooms participated in each of the three waves.

1.6 Outline of the Book

This book consists of two parts. The first part comprises Chapters 2 and 3, and is concerned with students' interethnic attitudes in order to answer Research Questions 1 and 2. The central focus here is on the *negative* effects of intergroup contact. Chapters 4 and 5, which constitute the second part of this book, then move on to one of the most important determinants of positive intergroup attitudes: students' interethnic friendships. To answer the last two research questions, the processes that take place within social networks and the assumptions made by the statistical tools used in analyzing such networks are examined.

In Chapter 2, my coauthors and I built on Pettigrew's (2008) argument that intergroup contact can also have negative consequences so that we could develop an explanation for the mixed findings on the relationship between ethnic classroom composition and students' interethnic attitudes. Earlier research has mainly

explained the non-positive effects of classroom composition using ethnic competition theory (Blalock, 1967; Quillian, 1995). We reasoned that negative contact effects might offer an alternative explanation for these non-positive effects. If students generalize from both positive and negative interpersonal contact experiences to form their attitudes about outgroups in general, some of these students will develop more negative attitudes. We argued that, depending on the relative frequency of students with mainly positive, neutral, or negative interpersonal relationships with their outgroup classmates, the overall effect of intergroup contact on the classroom level can also be positive, zero, or negative. We tested this hypothesis with random effects (multilevel) models (Snijders & Bosker, 1999). In this chapter, we did not make use of longitudinal data but examined positive and negative contact effects cross-sectionally. Of course, this methodology did not allow us to test the assumption that positive and negative contact experiences generalize into more positive and negative intergroup attitudes. The process could also have been the other way around, meaning that students' intergroup attitudes were what determined the quality of their interpersonal relationships with outgroup classmates.

This process then became the focus of Chapter 3. Here, we investigated the ways in which the positive and negative contact experiences of students with classmates from other ethnic groups generalized to form students' attitudes towards these groups as a whole. This study contributed to the existing literature on the intergroup contact hypothesis in four ways. First, the effects of both positive and negative contact experiences on positive and negative interethnic attitudes were compared. In acknowledging that negative contact effects might exist, we overcame the positivity bias of earlier research (Paolini et al., 2010; Pettigrew & Tropp, 2006). Second, we assessed the effect of contact with classmates of a particular ethnic group on the students' generalized attitudes towards this particular ethnic group. This was done for both ethnic minority and majority students, separately. Third, we investigated the generalization of positive or negative *interpersonal* contact experiences into attitudes about the outgroup as a whole (Hewstone & Brown, 1986). This way, we acknowledged that intergroup contact was interpersonal in the first place (Pettigrew, 1998). Most importantly, we were able to investigate the causal direction between interpersonal contact experiences and intergroup attitudes by making use of longitudinal data. We applied cross-lagged structural equation models (Kline, 2010; Little, Preacher, Selig, & Card, 2007) to test whether students actually generalized from interpersonal experiences or if their interethnic attitudes influenced these experiences on the interpersonal level.

With Chapter 4, we changed the subject of our analysis from the students' interethnic attitudes to their social integration. To answer Research Question 3, the mechanisms underlying the evolution of friendship networks and the co-evolution of students' opinions were examined. This chapter was mainly inspired by the example of the hip-hop intervention in Arnhem, introduced at the beginning of this chapter.

Not only did we investigate under which conditions the homophily principle reduced ethnic segregation, but we attempted to simultaneously answer the question of what went wrong with this intervention. In a longitudinal framework, we investigated how the principles of social affiliations that date back to Simmel ([1922] 1955) and Blau (Blau, 1974, 1977), and their interplay with the homophily principle, can contribute towards increasing or decreasing segregation in students' networks. Here, we applied stochastic actor-based models (Snijders, 1996, 2001; Snijders et al., 2010) to analyze changes in students' friendship networks over time. This analysis technique allowed us to adequately control for the structural effects of the network, while assessing students' friendship preferences and disentangling selection from influence processes.

In Chapter 5, we addressed Research Question 4 from a theoretical point of view. Earlier research explained higher levels of ethnic segregation in ethnically more heterogeneous schools mainly by stronger preferences for intra-ethnic friends as predicted by the ethnic competition theory (Blalock, 1967). We argued in this chapter that a misrepresentation of students' friendship preferences in the assumptions made by the statistical analysis of social networks may instead have caused this effect. We applied an agent-based computational model to simulate the complex processes that may unfold depending on the assumptions made about students' preferences (c.f. McFarland & Rodan, 2009 for a similar approach when studying educational course-taking careers). In particular, we simulated the evolution of friendship networks in hypothetical schools with a varying population of minority group students and with different assumptions about students' friendship preferences. These simulated networks were then analyzed using exponential random graph models (Goodreau, 2007; Robins, Pattison, Kalish, & Lusher, 2007), a statistical tool that has been developed for the analysis of cross-sectional networks and also allows for structural effects such as transitivity to be controlled for. Because we explicitly modeled the theoretical expectation about the process behind friendship selection, we were able to show that the result of increasing segregation in more heterogeneous classrooms might also have been caused by mechanisms other than ethnic competition.

Chapter 6 finally provides a short summary of the findings and discusses implications for future research. Although (better yet: Because) the studies in this book mainly reason about general mechanisms and processes that are transferable across different student characteristics (e.g., their opinions or tastes) and social settings in which contact takes place (e.g., in school classrooms or youth centers), the conclusions drawn have concrete implications for practitioners and policymakers who want to improve the integration of students. We could not provide *the one* perfect intervention that will work in every setting. But through our focus on mechanisms and processes, we were able to present some general ingredients for the development of intervention programs.