The Education of Migrants and Their Children Across the Life Course

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Cornelia Kristen, Aileen Edele, Frank Kalter, Irena Kogan, Benjamin Schulz, Petra Stanat and Gisela Will

Abstract

Pillar 4 of the German National Education Panel Study addresses migrants' and their descendants' acquisition of education across the life course. Apart from documenting the evolution of ethnic educational inequalities throughout the educational career by focusing on different origin groups and distinct indicators of educational success, we

C. Kristen (✉)
University of Bamberg, Bamberg, Germany
E-Mail: cornelia.kristen@uni-bamberg.de

A. Edele · P. Stanat
Humboldt-University Berlin, Berlin, Germany
E-Mail: aileen.edele@iqb.hu-berlin.de

P. Stanat
E-Mail: iqboffice@iqb.hu-berlin.de

F. Kalter
University of Mannheim, Mannheim, Germany
E-Mail: kalter@uni-mannheim.de

I. Kogan
Societal Comparisons, University of Mannheim, Mannheim, Germany
E-Mail: irena.kogan@uni-mannheim.de

B. Schulz
WZB Social Science Center, Berlin, Germany
E-Mail: benjamin.schulz@wzb.eu

G. Will
Leibniz Institute for Educational Trajectories, Bamberg, Germany
E-Mail: gisela.will@lifbi.de

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seek to uncover the origins of these disparities. Beyond the mechanisms associated with social inequalities, Pillar 4 aims to disentangle those processes that impact particularly on immigrants and their children and to assess their empirical relevance. We apply the prominent distinction between primary and secondary effects to students of immigrant origin and then link this distinction to a general resources framework that we further adapt for migrants. This leads to the crucial debate within integration research on whether the resources and opportunities available within the migrant group foster educational success. One stream within this debate refers to the contested question whether proficiency in the language of the country of origin influences competence development in the country of residence. Another important stream concerns the role of ethnic networks and social capital for educational success. We discuss the mechanisms predicting either beneficial, neutral, or harmful effects and present available empirical evidence. Based on this account, we highlight the analysis potential of the data gathered in Pillar 4.

Keywords
Migrants · Education · Language skills · Social capital · Panel study

7.1 Introduction

Over the past decades, the number of immigrant students has grown substantially. In 2006, according to the school achievement studies PIRLS (Progress in International Reading Literacy Study) and PISA (Programme for International Student Assessment), 26% of 4th-grade students and 19% of 15-year-olds had at least one parent who was born outside Germany (Schwippert et al. 2007; Walter and Taskinen 2007). These students have lower chances of attaining favorable educational and vocational qualifications. They are at a disadvantage with respect to the acquisition of knowledge and skills as well as with respect to their educational participation. In fact, the performance gap between migrant students and students from native-born families tends to be larger in Germany than in other OECD countries (Stanat and Christensen 2006). Given the increasing proportions of individuals of immigrant origin on the one hand and the central role of education for the integration of these students on the other, ethnic disparities in education are a major concern for researchers, policymakers, and the general public.

Ethnic educational inequalities can be found throughout the school career. Children from migrant families already lag behind on qualifications when they start school (Becker and Biedinger 2006). They attend the highest, college-bound secondary track, the Gymnasium less often, and concentrate instead in the Hauptschule, the lowest track (Autorengruppe Bildungsberichterstattung 2010). They also encounter difficulties in landing an apprenticeship in Germany's dual system of vocational training, and they differ from the majority population in the degrees eventually completed (Autorengruppe Bildungsberichterstattung 2010). At the same time, there is substantive variation in these

gaps across immigrant groups with some, such as students of Turkish origin, facing pronounced disadvantages; but others, such as those from the former Soviet Union, doing relatively better (Segeritz et al. 2010). Additional variation arises within groups when considering different indicators of school success. For example, students of Turkish origin encounter considerable difficulties in terms of test scores in elementary and secondary school (e.g., Kristen 2008; Müller and Stanat 2006), but given similar test results or grades, they outperform the majority at certain educational transitions (Kristen and Dollmann 2010; Kristen et al. 2008).

Even though the description of these patterns has improved substantially over the past decade, we do not yet have a comprehensive picture of the educational careers of children of immigrants that not only captures different stages in the school system but also goes beyond the prominent immigrant–majority distinction. The National Educational Panel Study (NEPS) Pillar 4 with its focus on "Education Acquisition with Migration Background in the Life Course" does not just seek to complement the description of ethnic educational inequalities across the educational career by focusing on different origin groups and distinct indicators of educational success such as competencies, transitions, participation, and eventual outcomes. Most importantly, it seeks to uncover the origins of these inequalities.

A crucial finding of previous research in this field is that the difficulties immigrants and their children face in the school system are largely the result of differences in educational and social background (Alba et al. 1994; Heath et al. 2008; Kristen and Granato 2007; Müller and Stanat 2006; Segeritz et al. 2010). They are a matter of social rather than of specific ethnic inequalities (Kalter 2005). Therefore, an account of the emergence of these disparities has to refer to the social inequality mechanisms addressed in other NEPS pillars (e.g., Pillars 1 and 3; see Chaps. 4 and 6, this volume).

The specific focus of the migration Pillar 4 is then on those educational differences that persist after controlling for social origin. Accordingly, NEPS Pillar 4 aims to disentangle the mechanisms that apply particularly to immigrants and their children and to assess their empirical relevance across the life course.

In this chapter, we present the central considerations underlying NEPS Pillar 4 and, based on this account, highlight the pillar's analysis potential. In order to explain ethnic inequalities in education, we start with the prominent distinction between primary and secondary effects (Boudon 1974) and apply this to students of immigrant origin (Sect. 7.2). We link this distinction with a general resources framework and adapt it for immigrants and their descendants. This leads to one of the most important debates within current integration research: that centering on the question whether the resources and opportunities available within the migrant group foster educational success. We discuss the underlying arguments and illustrate them with two crucial streams within this debate. The first refers to the contested question whether proficiency in the language of the country of origin benefits, hinders, or is irrelevant for competence development in the country of residence (Sect. 7.3). The second concerns the role of ethnic networks and social capital for educational success (Sect. 7.4). In both sections, we discuss the

mechanisms predicting either beneficial, neutral, or harmful effects and present available empirical evidence. Against this background, we then turn to the analysis potential of NEPS Pillar 4 (Sect. 7.5).

7.2 "Ethnic Resources" and the Education of Immigrants and Their Offspring

In order to detect the mechanisms explaining the emergence and persistence of ethnic educational inequality, it is helpful to follow the common distinction between primary and secondary effects (Boudon 1974). In stratification research, this refers to the impact of social origin on competencies and on educational decisions (see Chap. 6, this volume). When applied to migrants and ethnic minorities, it corresponds to the independent influence of ethnicity on competencies and decisions (e.g., Heath and Brinbaum 2007; Heath et al. 2008; Kristen and Dollmann 2010). The primary and secondary effects of ethnic origin thus capture those immigration-specific influences that persist after controlling for the effects of social origin.

This distinction can be linked to a general resources framework according to which differences in the distribution of relevant resources or characteristics translate into a differential development of competencies as well as into distinct educational decisions. Depending on the resources available in the environment, the conditions for school success vary systematically. For example, financial, cultural, and social resources influence parental support and childhood conditions. Especially parental education is a crucial prerequisite for school success. Better educated parents are not just able to provide more qualified help that improves learning processes (i.e., primary effects of social origin). They also have experience with the more demanding educational pathways, and this strategic knowledge places them in an advantageous position at important educational transitions (i.e., secondary effects of social origin; e.g., Erikson and Jonsson 1996).

This reasoning applies to all students alike. For immigrants and their children, however, it is necessary to consider an additional aspect of the resources argument, namely, that the resources required to develop school-relevant skills as well as to make favorable educational transitions are, to some extent, specific to the educational setting. Therefore, immigrant parents who grew up and attended school in their country of origin have not acquired these resources through their own school careers. At the same time, the resources they bring with them may be of a different relevance in the country of residence (Chiswick 1978).

Restricted transferability of origin-specific resources can affect the education of students from migrant families both in terms of primary and secondary effects of ethnic origin. A prime example for a primary ethnic effect is proficiency in the language of the country of residence. Competencies in the language of instruction are crucial for learning in school and an obvious source of disadvantage among migrant students (e.g., Esser 2006; Müller and Stanat 2006). Knowledge about the functioning of the school system

can serve as an example for a secondary ethnic effect. If parents attended school in the country of origin, it is more difficult to navigate the country of residence's educational system. Information resources may matter most at important branching points in the school career when knowledge about relevant regulations and appropriate behaviors can be crucial for making advantageous choices (Kristen 2008).

Note, however, that the primary and secondary effects of ethnic origin can also work in favor of students from immigrant families. For example, one important current debate addresses the contested assumption that good skills in the language of origin improve cognitive learning processes, the acquisition of the language of instruction, and consequently school success (Cummins 1979). Arguments stressing the benefits of "ethnic resources" have also been brought forward with regard to secondary ethnic effects. For example, it has been reasoned that migrants "tend to be 'positively selected' for their ambition and drive" (Heath and Brinbaum 2007, p. 291), and that the relatively high educational aspirations prevalent in coethnic social networks may put them in a favorable position at educational transitions (e.g., Jonsson and Rudolphi 2010; Kristen and Dollmann 2010).

These examples point to one of the most pressing issues in current integration research, namely, whether the resources and opportunities available within the immigrant or ethnic minority group provide favorable conditions for educational and labor market success (Kalter 2008). In this regard, some scholars, most prominently the proponents of the so-called theory of segmented assimilation, argue that being embedded in one's origin group in terms of relationships, networks, orientations, identities, or language use permits the mobilization of other resources that compensate for ethnic disadvantages and foster educational success (Portes 1995, 2003; Portes and Rumbaut 2001; Zhou 1997). Others, however, argue that the focus on one's own ethnic group might prove to constrain immigrants' advancement in the receiving society, because ethnic networks generally do not provide the same amount of helpful resources as networks consisting mostly of majority group members (Kalter 2006). In other words, to succeed in the country of residence, it is necessary to acquire those resources that are relevant within this context (Esser 2004, 2006). This kind of reasoning is often subsumed under new assimilation theory (e.g., Alba and Nee 1997, 2003; Esser 2004; Kalter 2008; Perlmann and Waldinger 1997; Waters and Jiménez 2005).

Although available empirical studies seem to support both types of arguments, they often rely on only weak data. One reason why, for example, the role of proficiency in the language of origin is so controversial is the almost complete lack of studies that have been carried out with sufficient empirical rigor (Esser 2006; Limbird and Stanat 2006; Söhn 2005). Moreover, evidence for the helpful role of ethnic communities is often derived from the fact that ethnic group membership still shows a positive effect after controlling for many relevant determinants of school success (e.g., Portes and Hao 2004; Portes and MacLeod 1996). However, since there could be many alternative explanations, there is an obvious need for more direct empirical tests of the assumed mechanisms (Kroneberg 2008). Furthermore, most studies deal with the situation in the United States. Apart from small-scale studies, little is known about the relative importance of both types of arguments in Germany.

NEPS Pillar 4 aims to close this gap. It is delivering comprehensive empirical contributions on the situation in Germany in general along with unique empirical tests, because many of the mechanisms underlying the conflicting theoretical views are well-captured by the general structure and many of the central concepts measured in NEPS.

To illustrate the migration pillar's contribution in the following, we shall focus on the role of "ethnic resources" and discuss two controversial streams of the debate: the effects of proficiency in the language of origin for educational advancement and those of ethnic networks and social capital.

7.3 Proficiency in L1[1]: Beneficial, Hindering, or Irrelevant for Educational Success?

Mastery of L2 is seen as an important indicator of and prerequisite for migrants' social integration (e.g., Esser 2006), and it is often considered to be one of the most crucial primary ethnic effects. Its impact for immigrants' educational success is largely undisputed. In contrast, the effects of proficiency in L1 on immigrants' educational success are highly controversial. On the one hand, some arguments and findings suggest that L1 proficiency has positive effects on L2 acquisition and educational success (e.g., Cummins 1979). On the other hand, detrimental or zero effects of L1 proficiency are also postulated (e.g., Esser 2006).

The role of L1 proficiency for educational success is related to the question whether educational systems should make provisions for the promotion of L1, by, for example, offering so-called *heritage language instruction* or bilingual programs. Proponents of such programs typically assume that they will improve not only students' skills in L1 but also their learning more generally. Yet the empirical evidence on this issue is inconclusive as well (Limbird and Stanat 2006; Söhn 2005). Therefore, NEPS is providing a database that allows researchers to explore the interrelationships among proficiency in L1, proficiency in L2, and indicators of educational success over time. In this way, it is also contributing to settling a crucial issue within the debate about the relevance of "ethnic resources."

7.3.1 L1 as a Beneficial Resource

The strongest theoretical argument in favor of beneficial effects of L1 is the so-called *linguistic interdependence hypothesis,* also labeled the *transfer hypothesis* (Cummins 1979). This states that the acquisition of a second language depends on the acquisition of

[1]The term L1 (first language) is used here interchangeably with the language of the country of origin, whereas L2 (second language) refers to the language of the country of residence, regardless of whether these languages are indeed acquired successively, as the labeling L1 and L2 suggests, or simultaneously.

the first language. According to Cummins (1980, p. 175), "proficiencies in both L1 and L2 are manifestations of the same underlying dimension." Based on this *common underlying proficiency,* proficiency in the first language is expected to transfer to the second language and vice versa while also exerting beneficial effects on cognitive development in general. Thus, a causal relationship between first and second language proficiency is assumed. Presumably, however, this transfer will occur only if a certain threshold proficiency is reached in the first language (*threshold hypothesis*). Methodologically appropriate research on the role of L1 proficiency and bilingualism for L2 proficiency and educational success is scarce, and findings are mixed. Evidence in support of positive effects of L1 proficiency stems from analyses exploring the role of L1 proficiency for L2 acquisition, for third language learning, and for cognitive functioning more generally.

Analyses within the Children of Immigrants Longitudinal Study (CILS) have revealed a positive relationship between self-reported proficiency in L1 and L2 (Esser 2006). Yet, this relationship emerged only after controlling for confounding variables such as socioeconomic status and age at migration. This underlines the importance of including relevant background variables in analyses of language interdependence. Although the CILS accounted for many of these aspects, it did not control for general cognitive ability as a plausible underlying mechanism. Moreover, these findings are based on self-reports of L1 and L2 proficiency, and these may well be biased.

Longitudinal studies with children that did not rely on self-reports but actually tested L1 and L2 proficiency also found some evidence for a beneficial role of L1 proficiency on L2 acquisition. For instance, a recent longitudinal study tracked preschoolers from immigrant families who predominantly used L1 at home over a 3-year period and compared them to preschoolers without a migration background (Lesemann et al. 2009). A small positive transfer effect of L1 proficiency on some aspects of L2 proficiency occurred even after controlling for general cognitive ability and other possible confounds, but no transfer was identified for other aspects of L2 (see also Verhoeven 1994).

In addition, there is evidence that bilingualism is beneficial for third language learning. For instance, a recent study in Germany examined the outcomes of another language than L2 spoken at home on the acquisition of English as a third language (DESI-Konsortium 2008). After controlling for possible confounds, students who had acquired L1 and L2 either simultaneously or consecutively outperformed monolingual German-speaking students in English skills (Hesse et al. 2008). Thus, the presence of L1 as a first language seems to relate positively to third language acquisition.

Because many children of immigrants acquire L2 and L1 simultaneously, research exploring the outcomes of simultaneous bilingualism is also informative in the present context. Research on this issue consistently reveals positive effects of bilingualism on various aspects of cognitive functioning such as metacognitive and metalinguistic awareness (Adesope et al. 2010; Bialystok 1988)—especially when it involves attention processes; the resolution of cognitive conflicts, for example, rule switching (Carlson and Meltzoff 2008); or working memory tasks that demand high levels of executive control (Bialystok 2009). Thus, bilingualism seems to be beneficial for executive functioning.

Executive functioning encompasses a set of cognitive functions including attention and inhibition processes responsible for controlling and managing other cognitive functions. Bialystok (2009) proposes that these advantages are due to bilinguals constantly having to manage conflict resolution demands. More specifically, because both languages are activated jointly in bilinguals, they continuously need to select the right language and to inhibit the other. This, in turn, seems to enhance their executive control system.

7.3.2 L1 as a Hindrance or Irrelevant Skill

There are also positions and findings suggesting that L1 may impede or be irrelevant for educational success. One major argument construing L1 as a hindrance is the *time-on-task hypothesis*. This suggests that L1 may have detrimental effects if time that otherwise could be dedicated to the acquisition of L2 or other school subjects is spent on L1 (e.g., Hopf 2005). This argument draws upon Carroll's (1963) model of school learning. The model emphasizes the time component in learning by defining the degree of learning as a function of the time spent on learning divided by the time needed to learn a specific content. Following this approach, it can be argued that as long as immigrant students' L2 proficiency lags behind that of nonimmigrant students, the available time should be dedicated exclusively to the further acquisition of L2. In fact, some evidence suggests that bilingualism may be associated with negative effects on specific aspects of L2 proficiency, that is vocabulary, and that L1 proficiency and bilingualism are unrelated to educational success.

Research on bilingualism consistently shows that bilingual children possess a smaller vocabulary in each language than their monolingual peers (e.g., Oller and Eilers 2002) and that bilingual adults have greater difficulties in verbal retrieval (e.g., Kaushanskaya and Marian 2007). Bialystok (2009) argues that the mechanisms underlying bilinguals' advantages in executive control are also responsible for the negative outcomes of bilingualism on vocabulary and verbal access. She proposes that the joint activation of both languages creates a conflict between the two, which, in turn, impedes vocabulary access. Of course, bilinguals' combined vocabulary in both languages often exceeds the vocabulary size of monolinguals (e.g., Oller et al. 2007), which can also be interpreted as a positive outcome of bilingualism. However, with regard to educational success, the size of the vocabulary in the language of instruction is likely to be crucial. Therefore, the reduced vocabulary in L2 may have negative effects on learning development.

The relationship between proficiency in L1 and educational success has also been explored with panel data. The results of these studies are mixed as well. Analyses of the National Educational Longitudinal Study (NELS) yielded zero effects of immigrant students' bilingualism on grades, but negative outcomes on mathematics skills (Mouw and Xie 1999). Analyses of CILS data resulted in either positive or zero effects depending on the methodological approach taken. Regression analyses simultaneously including self-reported L1 and L2 proficiency as predictors showed a positive effect of L1 beyond the effect of L2 on mathematics skills, but not on reading (Esser 2006). However, these models did not address the effect of bilingualism that, by definition, consists of a combination

of L1 and L2 competencies. When immigrants were divided into groups according to their proficiency in L1 and L2 (high vs. low), migrants with a high proficiency in both L1 and L2 ("competent bilingualism") did not perform better in either reading or in mathematical skills compared to immigrants with a high command of L2 but low L1 proficiency ("assimilation") (Esser 2006).

Another study comparing the group of competent bilinguals to the group of immigrants with high proficiency in L2 alone also challenges the view that competent bilingualism is beneficial for educational outcomes beyond the effects of L2 proficiency. In a sample of elementary school students, Dollmann and Kristen (2010) could not identify any advantages of competent bilinguals in terms of cognitive, mathematical, or reading skills as well as mathematics grades compared to immigrant students with high proficiency in L2 but not in L1. Unlike the panel studies cited above, the data in this study included objective measures of L1 proficiency rather than self-reports. Nevertheless, the study was restricted to a specific context (a large city in Germany), a specific migrant group (Turkish descent), and a specific age group (3rd to 4th grade), thereby casting doubt on the generalizability of its findings. Taken together, the empirical evidence for effects of L1 proficiency and bilingualism on educational success is ambiguous, and the empirical foundation far from satisfactory.

7.4 Ethnic Networks as Promoters of Educational Success?

Another important stream in the debate on "ethnic resources" concerns the role of ethnic networks and communities for educational success in terms of both competence development (i.e., primary ethnic effects) and transitions (i.e., secondary ethnic effects).

The general lines of argument parallel those on the role of L1 very closely. Proponents of segmented assimilation theory reason that ties to coethnics can compensate for disadvantages (e.g., Portes 1995, 2003; Portes and Rumbaut 2001; Zhou 1997), whereas proponents of new assimilation theory argue that these ties might prove to constrain the advancement of students of immigrant origin (e.g., Alba and Nee 1997, 2003; Esser 2004; Kalter 2008; Perlmann and Waldinger 1997; Waters and Jiménez 2005). Theoretically, Pillar 4 aims to overcome these seemingly conflicting standpoints by integrating them into a more comprehensive model of intergenerational integration (Esser 2008) in which each type of argument constitutes a special case, and positive or negative effects of ethnic communities are seen as being conditional on a set of further conditions such as opportunity structures and specific characteristics of the coethnics (Kroneberg 2008).

7.4.1 Ethnic Networks as a Beneficial Resource

Ethnic networks are assumed to be helpful for succeeding in the educational system of a receiving society via several, often connected, ways. Most importantly, it has been argued that ethnic communities might provide a kind of protection against the danger

of "downward assimilation," that is, adopting the lifestyles and attitudes of the disadvantaged segments in the country of residence such as the Black urban underclass in the United States (Portes and Zhou 1993; Portes and Rumbaut 2001). Immigrant families and communities that possess strong educational aspirations and emphasize the importance of education can foster the advancement of their offspring by means of social control and direct support. This, according to the argument, works especially well if ethnic networks are dense and rather closed. In these instances, immigrants are obliged to meet educational goals, and deviant behaviors can be sanctioned effectively (Portes and Zhou 1993). For example, family members, friends, or neighbors can encourage students to do their homework and spend time on school-related tasks, or simply prevent them from fooling around. This could result in positive primary effects of ethnic origin.

A further mechanism assumes indirect beneficial effects of ethnic networks: If faced with discrimination, exclusion policies, or exclusive regulations, ethnic networks—along with strong ethnic identity and/or ethnic solidarity—can protect immigrants and their descendants from experiencing these confrontations, stereotypes, and possible threats in their everyday lives (Portes and Rumbaut 2001). This increases the probability that these students will maintain their efforts to perform well at school or on the job—even within a (possibly hostile) receiving context. Ethnic networks are seen to be especially important for recently arrived immigrants. They face the well-known problem of capital devaluation, meaning that many aspects of their skills and knowledge are no longer useful in the receiving society (Friedberg 2000)—most importantly, their language (see Sect. 7.3). Here ethnic communities provide an alternative "mode of production" and promise instant help: They can offer information relevant for succeeding in the receiving society even without supplementary skills. Whereas these arguments are often made in the context of labor market integration (Aguilera and Massey 2003), they can be transferred easily to the education system. Even without knowing one single word of German herself, a just-arrived mother who can draw on the knowledge available within her network will have a better chance of accessing information on how the German school system functions, which schools are good, that it might be worth considering Kindergarten, and so forth. This would point to a positive secondary ethnic effect.

Altogether, these segmented assimilation arguments suggesting that ethnic networks facilitate social and economic mobility for immigrants and their offspring (Portes and Zhou 1993) explicitly challenge the assumptions of classical or new assimilation theory that social assimilation is the more promising track and that ethnic networks are less useful for upward mobility.

7.4.2 Ethnic Networks as a Hindrance

The general shortcomings of arguments favoring the beneficial effects of ethnic networks on educational success can be understood very well by referring more explicitly to the concept of social capital. Social capital encompasses resources possessed by individuals

on the basis of their relationships to others; that is, it is seen as a result of the embedding of individuals into a collective system (Bourdieu 1983; Coleman 1988; Esser 2000; Lin 2003). Roughly speaking, the basic argument behind seeing ethnic networks as a hindrance for educational advancement is that there can be a trade-off between ethnic ties and ties to the receiving society, and that there is reason to assume that, in most cases, the latter will deliver more helpful resources in the end. For example, one could relate directly to the discussion on language proficiency above, and stress the negative impact of ethnic networks on L2 acquisition: A high level of incorporation into ethnic networks is associated with more frequent use and exposure to L1—and less use and exposure to L2. This, in turn, would affect competence development (i.e., a primary ethnic effect).

In general, ethnic communities, by definition, provide fewer opportunities for interethnic contacts. This increases social distance and reduces the availability of information specific to the receiving context (Farwick 2009). Hence, strong ethnic networks are often seen as a mobility trap (Wiley 1970) and are perceived as either irrelevant or harmful to educational and social mobility (Esser 2009). Social networks provide access to others' resources, and one crucial resource is information, for example, that on the functioning of the school system. This information may encompass knowledge about important transitions, the requirements that need to be met to enter a certain pathway, the set of schools available, and so forth (i.e., secondary ethnic effects). Obviously, a timely communication of this kind of knowledge along with a thorough understanding of the steps one has to take to navigate the system successfully are also essential at later stages in the educational career. For adolescents and young adults, for instance, it is important to know how to write a proper application for an apprenticeship or to be familiar with which (cultural) codes to follow during a job interview.

Apart from providing relevant information, the effect of social capital and ethnic networks on educational and labor market success is just as much about references and recommendations. They can be vital for placement in a certain position (Granovetter 1973; Montgomery 1991).

How much information and support are accessible and how helpful these are depends on network characteristics such as homogeneity and relationship quality (Granovetter 1973). Weak ties to other networks can provide nonredundant information. To conceptualize this more appropriately, Granovetter (1974) introduced the term social bridges for those key ties that build up singular connections between (otherwise) separate networks. New, nonredundant information can come only via these social bridges. The closer one is located to a bridge builder and the stronger one's relation to her or him, the more likely it is that one will be able to mobilize social capital accessible through this bridge (Lin 2003). Therefore, what matters is the quality of relations in terms of closeness, contact frequency, degree of kinship, or duration. In this regard again, strong ethnic networks can result in disadvantages for immigrants and their descendants: Among their weak, but especially among their strong ties, they find relatively few majority group members and many coethnics who may be less able to provide the information and support that is relevant for educational advancement in the country of residence (Haug and Pointner 2007; Gestring 2007).

Interestingly, even the proponents of segmented assimilation theory see a possible "downside" of ethnic capital when the resources included in it are contraproductive. The basic mechanisms of social control and enforceable trust can also work in a negative direction: Ambitious immigrants can be slowed down or deterred from investing particularly in education by an ethnic network that does not share these ambitions and therefore sanctions such escapees (Portes and Rumbaut 2001). Portes and MacLeod (1999) found a strong increase in the probability of lower educational success if a "fatal combination" of strong integration into ethnic communities offering only poor social capital is accompanied by low human capital and strong ethnic identities.

7.5 Analytical Potential of NEPS

Empirical tests of the arguments outlined above require an appropriate research design and the careful selection of constructs. Against the background of this chapter, we highlight the pillar's analysis potential starting with some general remarks on the distinction between generations and migrant groups and then focusing on a selection of important constructs covered by Pillar 4. In line with the preceding sections, we pay special attention to language proficiency and social networks.

Complementing the description of ethnic educational inequalities across the life course and disentangling their origins requires the identification of different generations and distinct immigrant groups, because the extent to which the above-mentioned arguments apply differs substantially. Pillar 4 implements a broad definition of generation status based on the country of birth of the target person, the parents, and the grandparents (e.g., Rumbaut 2004). This makes it possible to identify not only the first and second generation, but, in contrast to most other large-scale data sources, also the third generation. In addition, users of NEPS data can differentiate between more fine-grained combinations, for example, between individuals born to two foreign-born parents (i.e., the second generation), and those with only one parent born in Germany and the other born abroad (i.e., the so-called 2.5 generation).

As illustrated in Sect. 7.3, an adequate assessment of language skills is crucial to Pillar 4. Because most studies addressing bilingualism had methodological limitations, evidence is still inconclusive, and it has not yet been possible to settle the controversy. In order to overcome the various methodological problems of previous studies, L1 proficiency in Russian and Turkish is being tested at three measurement points: in Grade 2 in order to assess L1 proficiency at an early stage of the educational career; in Grade 7 after the whole sample has transited into secondary school; and in Grade 9 shortly before the transition from school to work will take place for many students in the lower tracks of the school system.

The tests focus on listening comprehension. We chose this focus because migrant students typically learn L1 in the family context and are not necessarily able to read or write in this language. The test developed for secondary school consists of several short

recordings of clearly spoken texts including dialogues as well as expository and narrative content presented by native speakers of Turkish or Russian respectively. In order to avoid effects of previous knowledge on the test results, the content of the units was chosen so that either all students should be familiar with the subject matter (e.g., a classroom situation) or no students (e.g., the living conditions of a rare mammal). Listening comprehension is tested with several multiple-choice questions per unit. In order to broaden the empirical basis for questions related to L1 proficiency, other aspects of L1 proficiency that are not tested (reading, writing, and speaking) are assessed as self-reports in all immigrant students and also at other stages of the educational process.

NEPS is the first study in Germany to provide objective indicators of L1 proficiency for a representative sample of immigrant students. Moreover, the data are being generated in a sample whose educational trajectories are followed up longitudinally, and for which a multitude of other competence measures as well as background variables is available. Some of the language-related research questions that can be explored with NEPS data include the effects of L1 proficiency on school achievement and competence development in different domains; its relation to other indicators of immigrants' integration such as aspects of identity or psychological adaptation; and its influence on the transition to vocational training. In addition, the conditions of L1 acquisition and bilingualism in the family and in educational institutions can be examined more closely. NEPS will not be able to resolve all of the issues concerning the outcomes of L1 proficiency. Yet, it offers a unique analytical potential for researchers interested in the conditions and outcomes of the L1 proficiency of immigrants in Germany.

To examine the impact of ethnic networks and social capital on educational success, Pillar 4 includes information on network characteristics such as diversity, ethnic composition, heterogeneity, and positioning. The basic social capital measurements are covered by Pillar 3 (see Chap. 6, this volume). Pillar 4 adds the immigrant-specific constructs.

For each educational stage, social capital measurements include a resource generator that covers sources of information and support including the source's ethnic origin. For example, individuals are being asked whether they know someone who could help them to write an application or to gather information on job vacancies. In addition, a position generator is applied to examine the network's social and ethnic composition. For each accessible (social) position, we ask for the person's ethnic origin. Whereas for the early stages in the educational career, the focus is on parents' networks, attention shifts to the target persons' networks as they grow older. We also measure the proportion of individuals in the immediate environment who come from the same country of origin. Social capital is being measured prospectively and retrospectively. Measurements also include the actual use of social capital after important educational decisions. In combination with the repeated-measurements panel design, this allows us to address major theoretical and methodological criticisms. For instance, only this design makes it possible to address the question whether people who possess more social capital are actually more likely to use it. Otherwise, one could argue that social capital effects are a mere artifact of unobserved heterogeneity (Kalter 2010) or a result of the homophilious formation of friendship networks (Mouw 2006).

Apart from focusing on social networks and language proficiency, Pillar 4 implements instruments covering further important resources and characteristics. For example, identification orientations and their behavioral manifestations indicate the context toward which individuals direct their educational investments. Therefore, we capture identifications with one's own group, the country of origin, and its culture as well as those with the majority population, the country of residence, and its culture. These constructs will be measured for parents within the Kindergarten and school stages and for target persons beginning in Grade 3. We also consider behaviors that reflect these orientations, such as visits to the country of origin, contacts to family members and friends in the country of origin, and remittances. Other important behavioral manifestations include mating behavior and cultural habits—for example, the celebration of country-specific holidays or cooking habits. These measures always cover the orientation toward both the country of origin and the country of residence. Regarding cultural capital, we complement the instruments of Pillar 3 (see Chap. 6, this volume) with immigrant-specific aspects. For instance, when measuring reading habits, we add the language of media consumption.

NEPS Pillar 4 is providing unique information on the education of immigrants and their offspring in Germany. The database allows analyses of general processes leading to ethnic inequalities in education, and it offers manifold opportunities for substantial contributions to current debates, in particular on the role of "ethnic resources" for educational success.

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