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Andreas Hadjar and Christiane Gross

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NINE

Tracking, school entrance requirements and the educational performance of migrant students

Jaap Dronkers[1] and Roxanne A. Korthals

Introduction

The low educational achievement level of migrant students in most Western countries is a growing concern for policy makers.[2] High educational achievement is a prerequisite for successful integration into society and thus the best strategy to combat societal exclusion and discrimination of minority groups. Many studies (for example, Portes and Rumbaut, 2001; OECD, 2012) have shown that the low educational achievement of migrant students is partly explained by their lower socioeconomic status, but even controlling for this, research still suggests a wide gap between native and migrant students in educational achievement. What is interesting from a policy perspective is that there is substantial variation among migrant students themselves. This variation is linked to, for instance, individual characteristics such as the student's destination language, whether the student is a first- or second-generation migrant, age of migration, and having one or two non-native parents (Chiswick and Miller, 1996, 2002).

This study focuses on the effects of certain education system characteristics on migrant student performance. A study by the Organisation for Economic Co-operation and Development (OECD, 2007) showed that the more differentiated a country's education system, the more native students outperform migrant students, even after taking into account social background characteristics. Ammermüller (2005), who used a more restricted measurement of differentiation (number of school types available), reached another conclusion: the more types of school from which migrant students can choose in secondary education, the better they perform on average. Such a school system, however, with choices between different school types,

enhances the negative effect of speaking the language of the country of origin at home.

Although these studies examine the effects of education systems on migrants, this is not the main focus of their analysis. They also lack a suitable design to study the effects of a migrant's country of origin and destination, and these are related to their educational achievement. This chapter builds on the work of Levels et al (2008) and Dronkers et al (2014), who focused on the influence of both societal and education system characteristics of a migrant's country of origin and destination on their educational achievement. These studies use the cross-classified multi-level design first introduced by van Tubergen et al (2004). Instead of relying on observations of multiple-origin groups in a single destination, or a single-origin group in multiple destinations, the authors proposed a combined method that allows the comparison of multiple origins in multiple destinations.[3]

A major problem with the studies above (both for native-born and migrant students) is that they use a two-level model with a distinction between countries (origin and destination with societal and education system characteristics) and students (with individual and family characteristics). They thus ignore the fact that there are more levels that affect student achievement: students are nested in schools and within schools along different tracks, and all these levels produce sources of variation in achievement levels.

Dunne (2010) introduced a three-level model: countries, schools, and students. She showed that school characteristics such as socioeconomic composition and ethnic diversity have substantial effects on achievement levels, and also affect the relationship between parental background and achievement. These school characteristics seem to mediate some of the effects of education system characteristics found earlier. For instance, one of the reasons the relationship between parental background and achievement is stronger in stratified education systems, is that in these systems the particular school a student attends has a stronger effect.

Dronkers et al (2012) applied this three-level model to the children of migrants and their educational performance, confirming the results of Dunne (2010). The direct effect of parental background is strongest in comprehensive systems, and weakest in stratified education systems. This still holds true after inclusion of the track level within the schools, the origin countries of the migrant students, and the ethnic diversity of schools; however, the influence of parental background on the entrance selection of students (either based on prior performance or parental background) into different tracks and schools, is higher in stratified systems. It is possible that in these systems parents are more concerned

about school and track choice due to the long-term consequences of early choices. When schools and tracks do not select students, the influence of parental background is greater in comprehensive systems.

Korthals, and Dronkers (forthcoming) also explicitly take the school level into account to show that the relationship between tracking and student performance for native students is dependent on whether school principals use prior performance to select students. Their analyses showed that students in highly differentiated systems perform best when principals take into account prior performance in order to decide on student acceptance, leaving less room for parental influence. They also showed that in these schools and systems, students with high parental background gain less from their high parental background, whereas students with lower parental backgrounds are less harmed by it.

The main aim of this chapter is to investigate the relationship between tracking and student performance for migrant students, taking into account the school level and country of origin. This chapter contributes to a better understanding of differential effects of education system characteristics on native and migrant students. In our analyses we make use of the Programme for International Student Assessment (PISA) 2009 wave and compare two samples: a main estimation sample of 15 countries for which the country of origin of the migrant students is available (a sample similar to Dronkers et al, 2012), and a sample of 31 Western countries, as used by Korthals, and Dronkers (forthcoming).

Debates about migrants and education

The educational position of migrant children with different origins has been well documented. Research conducted in the United States has shown that major variation exists in the educational outcomes of different ethnic groups: Mexican Americans and black students obtain lower average grades than Asians and native Americans (for example, Bankston and Zhou, 2002), they are more likely to drop out of high school (White and Kaufman, 1997), and less likely to earn a college degree (Camburn, 1990; Mare, 1995). Similar gaps in educational success between different migrant groups have been observed in other Western countries such as the Netherlands (van Tubergen and van de Werfhorst, 2007), Belgium (Phalet et al, 2007), Germany (Worbs, 2003), and France (Brinbaum and Cebolla-Boado, 2007). In order to understand these migrant group differences, research has often relied on classic individual-level determinants (Kao and Thompson, 2003). Overall, these individual-level explanations have focused on the cultural position (for example, their motivation to perform) and the structural

characteristics (for example, parental social capital inside and outside their ethnic group and the time of arrival) of different migrant groups.

In addition to the study of the educational performance of different migrant groups in a single country, cross-national research has been conducted. Cross-national data collection such as that of TIMMS (Trends in International Mathematics and Science Study), PISA and PIRLS (Progress in International Reading Literacy Study), which focus on children's performances in various subjects, has allowed a comparison of the educational performance of migrant and non-migrant students in different destination countries. Individual- and school-level characteristics from PISA 2000 have been taken into account to explain differences in educational performance between first- and second-generation migrant students and native-born students (Marks, 2005; Schnepf, 2006). Interestingly, these effects vary substantially between countries. Although not tested, the differential effects seem to stem from differences in the education systems or immigration policies of the destination countries.

The study of educational system effects on the scholastic performance of migrant pupils is relatively recent. This study examines the influence of an important aspect of educational systems on the educational performance of migrant children. National education systems differ in the number of distinct educational programmes in secondary school, and the use of selection based on prior performance on entrance to secondary education (Shavit and Blossfeld, 1993; Shavit and Müller, 1998). Although it has been suggested that these different educational structures explain differences in the educational success of migrants across countries, there is little systematic evidence for this claim (Buchmann and Parrado, 2006; Heath and Brinbaum, 2007).

Since immigration is an intrinsically transnational phenomenon, it should be studied accordingly (Portes, 1999). Migrant parents and children from various countries of origin move to a variety of destination countries. In order to fully capture the complexity of the migration process, the use of a cross-classified multi-level design (or double comparative design) has been proposed (van Tubergen et al, 2004). Instead of relying on observations of multiple-origin groups in a single destination or a single-origin group in multiple destinations, the cross-classified design allows a simultaneous comparison of multiple origins in multiple destinations. Since this design disentangles the effects of characteristics of migrants' origin countries ('origin effects'), characteristics of the countries to which they migrate ('destination effects') and characteristics of their specific community (the origin–destination combination), it is extremely useful for gaining insight into

migrant outcomes such as educational performance. Analysing migrant integration in host societies without properly taking into account these origin effects will lead to flawed results: depending on the composition of the migrant population in a certain society, the results may be too optimistic or too pessimistic.

Data

We make use of PISA 2009 as organised by the OECD. PISA has been conducted every three years since 2000 and its main purpose is to facilitate international comparisons of student achievement. The PISA data involves a large array of students and school-level data and individual test scores on reading, science and mathematics. We supplement this data with country-level data on tracking.

PISA contains a representative sample from each participating country. It does so by selecting a sample of schools and including all 15-year-old students in that school.[4] Because of the two-tiered selection procedure and the need to obtain enough information on small subgroups, the samples might not be fully representative. For this reason the OECD provides individual sample weights which we use to ensure sample representation.

Extended sample

In 2009 75 OECD and partner countries participated in PISA. To ensure comparability with Korthals, and Dronkers (forthcoming) we employ only a selection of countries: the 31 countries which have a gross domestic product (GDP) per capita above the minimum of the OECD and available data on national tracking policies.[5] These limitations to the sample are imposed to exclude country heterogeneity as a driver of the results.

Table 9.1 shows the 31 countries and the sample sizes of both native students (both parents born in destination country) and students with a migration background. First-generation migrants are born outside the destination country, and have at least one parent born outside the destination country. Second-generation migrants are born inside the destination country, with at least one parent born outside destination country. This distinction between first- and second-generation migrants is derived from that of Portes and Rumbaut (2001), who classify migrant generation status based on age upon arrival in the destination country. We believe that the distinction used in this chapter

Table 9.1: Analysed countries, number of native and migrant students, and educational system characteristics per destination country

Destination country	Number of tracks	Proportion of students in schools that consider prior performance for student acceptance			Number of observations			
		Never	Sometimes	Always	Native-born	2nd gen.	1st gen.	All
Main estimation sample								
New Zealand	1	0.36	0.38	0.26	3,418	363	790	4,571
Norway	1	0.75	0.19	0.06	4,293	165	146	4,604
Finland	1	0.69	0.26	0.05	5,603	59	71	5,733
Denmark	1	0.49	0.47	0.05	4,474	931	358	5,763
Greece	2	0.55	0.38	0.07	4,499	141	242	4,882
Israel	2	0.12	0.35	0.53	4,459	679	391	5,529
Argentina	3	0.46	0.35	0.18	4,455	103	62	4,620
Portugal	3	0.71	0.27	0.02	5,858	151	182	6,191
Luxembourg	4	0.02	0.55	0.43	2,671	994	625	4,290
Germany	4	0.11	0.15	0.74	3,713	525	272	4,510
Netherlands	4	0.01	0.11	0.89	4,129	405	142	4,676
Austria	4	0.24	0.16	0.59	5,493	617	247	6,357
Belgium	4	0.38	0.43	0.19	7,059	585	638	8,282
Switzerland	4	0.29	0.17	0.54	8,850	1,708	991	11,549
Czech Rep.	5	0.19	0.26	0.55	5,830	95	64	5,989
Added countries in the extended sample								
Iceland	1	0.68	0.29	0.03	3,454	14	67	3,535
Sweden	1	0.78	0.19	0.03	3,976	339	163	4,478
Estonia	1	0.12	0.58	0.30	4,277	337	32	4,646
Poland	1	0.34	0.48	0.18	4,821	-	1	4,822
United States	1	0.47	0.27	0.26	4,116	658	325	5,099
Spain	1	0.76	0.20	0.04	23,179	310	1,915	25,404
Chile	2	0.17	0.42	0.40	5,424	5	23	5,452
Lithuania	3	0.38	0.49	0.12	4,142	68	7	4,217
Latvia	3	0.37	0.34	0.29	4,239	191	21	4,451
Hungary	3	0.03	0.05	0.92	4,416	44	51	4,511
Croatia	3	0.00	0.07	0.93	4,408	358	175	4,941
Russian Federation	3	0.33	0.43	0.24	4,545	349	249	5,143
Slovenia	3	0.32	0.47	0.21	5,454	391	92	5,937
Italy	3	0.30	0.29	0.41	28,954	365	1,178	30,497
Ireland	4	0.43	0.37	0.21	3,448	53	256	3,757
Slovak Rep.	5	0.18	0.19	0.63	4,482	15	10	4,507
Total	2.61 (mean)	0.36 (mean)	0.31 (mean)	0.33 (mean)	188,139	11,018	9,786	208,943

is clearer in cross-national usage and is less likely to underestimate the importance of pre-school socialisation.

The extended sample in this analysis consists of 188,138 native, 9,786 first-generation and 11,018 second-generation migrant students in (pre-)vocational or general education who were in schools where more than five students participated in PISA 2009. This amounts to 208,943 students in 7489 schools in 31 countries.

Main estimation sample

To determine the student's country of origin, which is necessary for our analyses, we need specific information on the country of birth of both the students and their parents, however, countries which allowed the country-of-birth questions in the PISA student surveys may have determined the set of allowed answers. This gave countries the option to include only their most important groups of migrants, limiting the options students could use. As a result, the origin countries of the different destination countries are partly dependent on the available categories. To account for this possible bias, we compared, as much as possible, the origin countries in PISA with national statistics. In most cases the largest immigrant groups identified by the statistical offices are also represented in our PISA data. There are no indications that selectivity in the possible answers (only the largest migrant categories of destination countries are included) has produced a bias, because small migrant groups in destination countries barely influence the results (see Dronkers and Kornder, 2014, for the distribution of migrants in all countries and areas of origin). Students with a country of birth other than the country-of-birth options given, are classified as having an unknown country of birth. To simplify the presentation of the analysis, we combined the countries of origin into 14 regions of origin based upon a slightly adjusted version of the United Nations Statistics Division's composition of macro-geographical regions.

We omit destination countries that did not allow for enough country-of-birth options in the main sample. Among some destination countries that did provide enough country-of-birth options, the question was not consistently asked, and therefore data from only 15 of the 31 countries of the full sample was useful for the analysis where country of birth is included. The main estimation sample consists of 74,588 native, 7,609 first-generation and 5,180 second-generation migrant students.

Tracking and school selection policies

The defining characteristics of tracking in this chapter are the number of tracks a country has available for 15-year-old students, as obtained from OECD (2007). School principals can influence tracking by the manner in which they allocate students across tracks. School directors can decide based on prior performance (an imperfect proxy of ability), parental background or a number of other criteria, while in some countries parents have the last word. As in Korthals and Dronkers (forthcoming), school policies on the track placement of students are obtained from the school survey in PISA 2009. School principals were asked how often consideration was given to a student's record of academic performance (including placements tests) and to feeder school recommendations in admitting the student to the school. There are schools where neither of the two factors is considered, schools where at least one of these factors is sometimes used to decide acceptance, and schools where at least one of the two factors is always considered. 9.1 provides some descriptive statistics for school selection policies at the country level. It shows that there is large country variation in the percentage of schools that never, sometimes or always consider prior performance. In countries with four or five tracks over 50% of schools answer that they always consider prior performance, while in comprehensive systems still 45% of schools indicate they always or sometimes consider prior performance in accepting the student to the school. We control for the track level of the students to limit the possibility that school principals only consider prior performance so as to accept the better students to the school. More attention is paid to this possible bias in Korthals and Dronkers (forthcoming).

Control variables

In addition to the 2008 GDP per capita from the World Bank (2012), all control variables were obtained from the PISA student and school surveys. The control variables at the student level are gender, age, parental background, whether the student is in (pre-)vocational education as opposed to general education, and whether the student is in upper secondary school as opposed to lower secondary school. Parental background is measured by an index that describes the student's economic, social and cultural status. An internationally comparable version of education levels (lower versus upper secondary education) is based on the International Standard Classification of Education (ISCED) level and provided by the OECD.

The control variables at the school level are school composition, a number of school input variables and a range of other school characteristics. The school average and variation in parental background and the percentage of students in a school who speak a language other than the test language at home measure different school aspects of composition. School input is the student–teacher ratio, teacher shortages, shortage in instruction material, and whether the school is responsible for the curriculum and assessment. Other school characteristics are the school type (public, private government-dependent or private government-independent school), whether school achievement is tracked by an education authority, school competition in the area, school location, school size and the use of ability grouping.

Estimation method

We use random effect models, which are estimated using maximum likelihood, to take into account error terms for countries, schools and individuals. These are necessary, since students are nested within schools within countries. Ignoring the nested data structure led to a downwards bias of the standard errors, since we would implicitly assume that all observations are independent from each other.

Missing values in the sample are replaced by group averages. To control for possible bias introduced by the method for replacing missing values, imputation dummies and imputation interactions are used in all models.

We reweighted the subsamples (native-born, first generation, second generation) in such a way that each country within a subsample was the same size, in order to avoid countries with many migrant students dominating the results.

Results

In this section, we first look at the relationship between tracking and migrant student performance, taking into account whether school principals consider prior performance in accepting students, and we compare the results across native-born, first- and second-generation migrants. We run all models for the three indicators of student performance (reading, maths and science), and separately for native-born, first- and second- generation migrant students. The first model in Tables 9.2, 9.3 and 9.4 contains, next to all control variables, information about whether principals consider prior performance

(the reference category is when principals never consider prior performance) and the number of tracks in the destination countries.[6] In the second model, we add the interaction terms between number of tracks and whether school principals consider prior performance.

Second, we ask whether the effect of parental background is different when there are more tracks to which students can be allocated. In the third model, we therefore include the interaction between parental background and number of tracks in order to look at this question.

Third, we are interested in the extent of the bias when omitting the region of origin for migrant students from the analyses. We estimate models with and without origin dummies. To determine whether the choice to include only those countries which provide information on the region of origin biases the results, we also estimate the models without region of origin with the extended sample of 31 countries as used by Korthals and Dronkers (forthcoming).

Without controls for origin – main estimation sample

Table 9.2 shows our results for first generation, second generation and native students in the 15 destination countries for which we know the origin countries of the migrants. As in Korthals and Dronkers (forthcoming), and as can be seen in the lower panel for our main sample, the direct effect of tracking on student performance is insignificant for native students. 9.2 shows that this is the same for first-generation migrant students, but that for second-generation migrant students there is a negative relationship between the number of tracks and reading performance (compare Model 1 for the three panels).

If we look first at first-generation migrant students and add the interactions between number of tracks and whether school principals consider prior performance in Model 2, we find no significant effect of tracking, nor are there significant effects of whether principals consider prior performance, which we do find for native students; however, we find that in countries with more tracks, students perform better in schools that consider prior performance (interactions *Sometimes* and the number of tracks, and *Always* and the number of tracks). For the 15 destination countries, we find that first-generation migrant students have higher educational performance in highly stratified education systems if schools consider prior performance when accepting students. The educational performance of first-generation migrant students in these 15 countries is thus not solely driven by individual and school characteristics, but also influenced by the combination of schools and stratification of the education system.

Table 9.2: The relationship between number of tracks, whether school principals consider prior performance, and test scores (main sample: 15 countries)

	Model (1)			Model (2)			Model (3)		
Dependent variable	read	maths	science	read	maths	science	read	math	science
Sample: first-generation migrant students									
School considers prior performance:									
Sometimes	7.83	6.24	10.05	-7.12	2.58	-11.96	7.04	5.47	9.20
Always	11.49	12.28	9.68	-18.35	-18.53	-27.77	10.53	11.33	8.67
Number of tracks	1.15	4.54	4.25	-5.75	0.98	-5.35	-0.08	3.34	2.92
*Sometimes**Number of tracks				9.95**	2.81	14.54**			
*Always**Number of tracks				13.89**	12.64**	17.87**			
Parental background*Number of tracks							-6.67**	-6.44**	-7.15**
Sample: second-generation migrant students									
School considers prior performance:									
Sometimes	16.88**	9.48	17.77**	9.65	7.73	7.46	16.83**	9.47	17.77**
Always	23.34**	24.33**	30.44**	-3.09	1.50	-10.53	23.47**	24.48**	30.25**
Number of tracks	-4.615*	0.62	-0.91	-9.820**	-2.64	-9.168**	-4.97*	0.28	-0.40
*Sometimes**Number of tracks				5.156*	1.21	7.59**			
*Always**Number of tracks				12.30**	10.18**	19.16**			
Parental background*Number of tracks							-1.47	-1.41	1.92
Sample: native-born students									
School considers prior performance:									
Sometimes	-3.89	-2.12	-3.13	-7.834*	-5.71	-8.156*	-4.11	-2.31	-3.33
Always	3.94	6.26	6.04	-19.78*	-17.30*	-20.93*	4.55	6.81	6.73
Number of tracks	-0.96	4.63	3.41	-4.68	1.02	-0.98	-0.68	4.91	3.74
*Sometimes**Number of tracks				2.87	2.62	3.64*			
*Always**Number of tracks				11.05**	11.03**	12.76**			
Parental background*Number of tracks							-5.24**	-4.91**	-5.58**

Notes
Coefficients with standard errors in parenthesis. The superscripts *, and ** indicate significance at the 5%, and 1% levels, respectively. Included but not shown are constant student background variables, school composition variables, school input variables, school characteristics, and the 2008 GDP per capita. All models include imputation dummies and imputation variable interaction terms. Poland has no second-generation migrants. Full information available from first author.

In the third model, we turn to our second question, where we ask whether the relationship between tracking and performance influences the effect of parental background, and we find that parental influence is lower when countries have more tracks available to students (negative interaction for parental background and number of tracks). This result is similar to that for the native students.

For second-generation migrant students, we find a significant effect from the number of tracks on reading and science in Model 2, and similar interaction effects as for the first-generation migrants. We thus find that for second-generation migrants, educational performance is also not driven solely by individual and school characteristics, but also influenced by tracking and school selection policies.

In the third model we find that the relationship between parental background and student performance does not differ between countries with more or less tracks available to students (insignificant interaction of parental background and number of tracks).

Differences in results for the main and extended sample

Table 9.3 shows our results for first generation, second generation and native students of the extended sample, the 31 destination countries without the origin of the migrant students. The results are only shown for reading. Where the results deviated for mathematics and/or science, this is mentioned in the text.

The differences between the samples are quite large (compare panels vertically). For first-generation migrants, we find no effect from the number of tracks and whether school principals consider prior performance, nor in combination with parental background. The educational performance of first-generation migrant students seems solely driven by individual and school characteristics, and not by the education system of their destination countries.

For second-generation migrant students, the results in Table 9.3 (containing students from 15 countries) are less significant than in Table 9.2 (31 countries), except for Model 3. The results from Model 3 show that in countries with more tracks the relationship of parental background and student performance is lower (negative interaction between number of tracks and parental background), and that in 9.2 the relationship was not lower in countries with more tracks available to students. In the main sample (Table 9.2), Models 1 and 2 showed significant results, but this is no longer the case in Table 9.3 (extended sample). The results for the mathematics and science scores are even less significant than for the reading scores. In summary, we find that

Table 9.3: The relationship between the number of tracks, whether school principals consider prior performance, and test scores (extended sample: 31 countries)

	Model (1)	Model (2)	Model (3)
Dependent variable	Reading score	Reading score	Reading score
Sample: first-generation migrant students			
School considers prior performance:			
Sometimes	3.12	2.58	3.12
Always	9.82	-1.57	9.68
Number of tracks	-1.4	-2.9	-1.06
Sometimes *Number of tracks		0.26	
Always *Number of tracks		5.49	
Parental background *Number of tracks			1.65
Sample: second-generation migrant students			
School considers prior performance:			
Sometimes	14.59*	12.35	14.07*
Always	16.55**	-2.84	17.39**
Number of tracks	2.79	-0.26	1.14
Sometimes *Number of tracks		1.57	
Always *Number of tracks		9.333*	
Parental background *Number of tracks			-10.84**
Sample: native-born students			
School considers prior performance:			
Sometimes	-2.19	-6.00*	-2.08
Always	6.623*	-9.08*	7.00*
Number of tracks	-2.63	-5.68*	-2.39
Sometimes*Number of tracks		2.72*	
Always*Number of tracks		8.26**	
Parental background*Number of tracks			-3.46**

Notes
Coefficients with standard errors in parenthesis. The superscripts *, and ** indicate significance at the 5%, and 1% levels, respectively. Included but not shown are constant student background variables, school composition variables, school input variables, school characteristics, and the 2008 GDP per capita. All models include imputation dummies and imputation variable interaction terms. Poland has no second-generation migrants. Full information available from first author.

the relationship of second-generation migrant students and the number of tracks, whether school principals consider prior performance, and student performance in the main sample of 15 countries, is stronger than the relationships in the extended sample of 31 destination countries.

Controlling for region of origin

Table 9.4 shows our results for first- and second-generation migrant students from the main sample of 15 destination countries for which we know the origin countries of the migrants. Again only the results for reading are shown. The sample and the models are the same as in Table 9.2, except that now we add region-of-origin dummies for the migrant students. This allows us to see whether the results without and with origin dummies are different, and to estimate the importance of the inclusion of origin dummies to obtain a less biased effect of education systems on the performance of migrant students.

The results for the first-generation migrant students when controlling for region of origin are almost identical to the results when region of

Table 9.4: The relationship between tracking, entrance requirements based on earlier performances and test scores, including region-of-origin dummies (main sample: 15 countries)

	Model (1)	Model (2)	Model (3)
Dependent variable	reading score	reading score	reading score
Sample: first-generation migrant students			
School considers prior performance:			
Sometimes	6.58	-4.99	5.75
Always	13.53	-11.48	12.49
Number of tracks	-2.99	-8.45	-4.42
Sometimes *Number of tracks		7.741*	
Always *Number of tracks		11.50**	
Parental background *Number of tracks			-6.76**
Sample: second-generation migrant students			
School considers prior performance:			
Sometimes	16.70*	10.75	16.67*
Always	25.20**	2.25	25.38**
Number of tracks	-5.05*	-9.55**	-5.36*
Sometimes *Number of tracks		4.26	
Always *Number of tracks		10.68**	
Parental background *Number of tracks			-1.28

Notes
Coefficients with standard errors in parenthesis. The superscripts *, and ** indicate significance at the 5%, and 1% levels, respectively. Included but not shown are constant student background variables, school composition variables, school input variables, school characteristics, and the 2008 GDP per capita. All models include imputation dummies and imputation variable interaction terms. Poland has no second-generation migrants. Full information available from first author.

origin is not controlled for, although somewhat smaller in size. There is no evidence for a significant relationship between student performance and the number of tracks, or between student performance and whether school principals consider prior performance (Model 1). If we add the interactions between number of tracks and whether schools consider prior performance in Model 2, we still find no significant main effect of tracking, nor are there significant main effects of whether schools consider prior performance. Again this is in accordance with the results without origin dummies; however, as before, we find that in countries with more tracks, the relationship with student performance is positive if school principals consider prior performance on accepting students (positive interaction terms of *Sometimes* and number of tracks, and *Always* and number of tracks). If we test whether the relationship between student performance and parental background differs between countries with more or fewer tracks, we see that it does not (Model 3). This is similar to the results in Table 9.2, which looked at the same 15 countries, but without including origin dummies. In summary, including the origin dummies does not change the effects of whether school principals consider prior performance or number of tracks for first-generation migrant students.

The bottom panel of Table 9.4 shows the results for the second-generation migrant students, and these results are also very similar to Table 9.2, where we did not control for region of origin. In the first model we only found a significant effect from the number of tracks for reading, and we found positive significant effects from whether schools consider prior performance. Again, these results are the same as for the second-generation migrant students in 15 countries without origin dummies (Table 9.2). In the second model, we find that the relationship between student performance and the number of tracks is more positive when school principals always consider prior performance (positive interaction term of *Always* and number of tracks), but this is not the case for mathematics. Again, this is similar to the results for the second-generation migrant students in 15 countries without origin dummies (Table 9.2). We find no evidence that the relationship between parental background and student performance differs between countries with more and fewer tracks available to students (Model 3).

The origin effects on educational performance themselves are substantial and significant (results not shown),[7] so the omission of the origin of migrants as a source of variance in educational performance might have led to flawed conclusions; however, in this particular circumstance, the inclusion of origin of the migrant student did not change the relationship between the number of tracks, whether the

schools of destination countries considered prior performance on accepting the student, or student performance (compare Tables 9.2 and 9.4). In other words, the general direction of the effects of education systems for migrants when not controlling for origin are in this case not biased by the omission.

Conclusions

The aim of this chapter was to investigate the relationship between tracking and migrant student performance (and parental background). We thus combined two insights from the literature on education systems and the literature on migrant outcomes: the need to take into account intervening school-level variables, as suggested by Korthals and Dronkers (forthcoming), and the need to include country of origin in order to correctly estimate models for migrant students, as suggested by Dronkers et al (2012).

We use a three-level model including students, schools and countries. The school level will absorb between-school segregation. In systems that track students, this between-school segregation is related to how schools place students into tracks, based on a varying combination of ability and parental background, and in comprehensive systems this between-school segregation is based on parental background (mostly related to spatial segregation). Between-school segregation in tracked systems which select based on prior performance, controls for part of the primary effect of parental background, since children from more privileged background *ceteris paribus* display higher achievement levels in primary schools and thus are more likely to be selected into higher tracks, as when selection is based on prior achievement.

When we simply extend the earlier analyses by separating native and first- and second-generation migrant students, we find results similar to those of Korthals and Dronkers (forthcoming). We find that migrant students in education systems with many tracks, who are in schools in which the principal always considers prior performance in accepting students to the school, have scores equal to or higher than students in systems with only one track, irrespective of whether or not the school principal considers prior performance. We also find that migrant students in education systems with many tracks, who are in schools in which the principal never considers prior performance in accepting students to the school, have lower scores than students in systems with only one track, and also lower than students in systems with many tracks if entrance selection is always based on prior performance. In the extended sample, however, the influence of education systems for

first-generation migrant students is absent, while the performance of second-generation migrant students is also influenced by tracks or prior performance, but the significance of the combination of tracks and entrance selection is greatest for native students. In the model using only natives we find the highest number of significant parameters of tracks and of entrance selection, as compared to the models using only first- or second-generation migrants.

For first-generation migrants in the 15 destination countries we find that many tracks decreases the effect of parental background, if the achievement of entrance requirements of schools is included, a result which is similar to the results for native students. The effect of the parental background of the second-generation migrant students in the 15 destination countries does not differ significantly in systems with many or few tracks; however, this deviates from the results for the 31 countries.

In summary: educational systems can make a difference to migrant pupils, but in a different way than often assumed. Selection on prior performance in a system with many tracks can be beneficial for migrant students. A possible explanation for this is that many tracks and selection according to prior achievements gives migrant parents and pupils more clear indications of the required performance and procedures than do systems without selection based on prior performances and fewer tracks. Migrant parents and pupils may have more problems navigating their way through the latter systems.

Limitations

Unfortunately, we only have the region of origin for migrant students in 15 of the original 31 countries; however, using 15 or 31 countries did not change the results for the native students. This consistency in the results suggests that the 15 countries are not deviant cases compared to the 31 countries, but using 15 or 31 countries does change the results for the migrant students. A possible explanation for these differences between the samples might be the different origins of migrants in the 31 countries compared to those in the 15 countries; however, the addition of origin dummies does not affect the system's parameters and the implication of this finding is that the difference between the 15 and 31 destination countries cannot be explained by the different origins of migrants in these countries. Another possible explanation for the differences between the samples is that the general policies and attitudes towards migrants in the 15 countries deviate from those in the 31 countries, and thus that the functioning of education differs

between these countries, not so much due to systematic education differences but to more general country characteristics, such as labour market opportunities, social welfare, ethnic niches and so on.

Notes

[1] Shortly before the finalisation of this book, my co-author Jaap Dronkers suddenly passed away. I would like to dedicate this chapter to Jaap, who was an excellent mentor and friend. *Roxanne Korthals*

[2] This chapter is based on Dronkers and Korthals (2015).

[3] It is important to distinguish both countries of destination and countries of origin. Omitting the latter from the analysis would give misleading results: Swedish and Russian migrants in Finland (with a comprehensive system) and Turkish and Yugoslav migrants in Germany (with a strongly differentiated system) cannot be treated as similar migrants, even when controlled for background characteristics.

[4] PISA officially samples students between the ages of 15 years and 3 months to 16 years and 2 months (OECD, 2010).

[5] Australia, Canada, France, and the United Kingdom are excluded due to missing data for the available number of tracks or school-level data. Mexico is excluded since Mexican students and schools are very different from other included countries in a large number of characteristics.

[6] See Dronkers and Korthals (2015) for the full models.

[7] Some region-of-origin dummies are significant and substantial, both positive (Northern Europe; Western Europe; North Africa; South East Asia) and negative (West Asia; Oceania), which underlines the importance of the inclusion of origin in cross-national analysis of migrant performances. See Dronkers and Korthals (2015) for more information about these results.

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