Tracking, School Mobility, and Educational Inequality

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Abstract. School tracking is defined as the placement of students into different school types, structured hierarchically by performance. In the majority of OECD countries, tracking takes place at the age of 15 or 16. In Russia, similarly, students are sorted into "academic" (high school) and "non-academic" (vocational training) tracks after Grade 9, at the age of 15. However, even before that split, Russian children are distributed among schools of differing types ("regular" schools, specialized schools, gymnasiums and lyceums), which some researchers refer to as "pre-tracking" [Kosyakova et al. 2016]. No empirical evidence as to how often students change school prior to formal tracking at age 15 has been available so far. Using the St. Petersburg administrative school database containing information on all school transitions made in the 2014/15 academic year, this article investigates school mobility among first- to eleventh-graders. In particular, it compares the frequency of changing school across different grades as well as the overall incidence of school transitions. Regression models were constructed for academic/non-academic track choice after Grade 9, which link the share of students transitioning to vocational training institutions with school characteristics. With regard to changing school prior to formal tracking, findings reveal rather low school mobility. Indeed, in spite of having vast school change opportunities in a school system of a Russian megalopolis, 65% of students attend the same school from Grade 1 through Grade 9, and 85% stick to one school between Grades 5 and 9. This is consistent with Yulia Kosyakova and her co-authors' inferences on pre-tracking in the Russian secondary school. The implications for building individual educational trajectories and dealing with educational inequality are discussed.

Keywords: school tracking, school differentiation, school choice, school change, educational inequality.

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Inequality in access to quality education remains an acute social problem of the modern society, with Russia being no exception. Education determines life chances and creates opportunity for social mobility, which makes the problem of unequal opportunities for different so-

cial classes of almost paramount importance in sociology of education. Dozens of studies and hundreds of articles have been devoted to this issue over the past six decades [Ammermüller 2012; Lucas 2001; Raudenbush, Eschmann 2015; van de Werfhorst, Mijs 2010]. The relationship between parental socioeconomic status and tertiary education attainment has been confirmed by a number of studies worldwide [Bessudnov, Malik 2016; Breen, Jonsson 2005; Hillmert 2003].

The findings obtained by Russian researchers specialising in sociology of education provide strong evidence that the education system in Russia, similar to that of other countries, promotes the reproduction of inequality. Despite equal opportunities being declared, chances for getting a quality education—which means a high social status and success in life—are largely dependent on such factors as parental education and occupational status, family income, and place of residence [Konstantinovskiy et al. 2006; Sobkin, Ivanova, Skobeltsina 2011; Shubkin 1970]. Of particular importance is the fact that inequality in education manifests itself as early as at the level of elementary and middle school [Konstantinovskiy 2010; Sobkin, Ivanova, Skobeltsina 2011; Cherednichenko 1999].

Inequality of educational opportunity is closely related to school stratification and tracking, i.e. the distribution of students into different educational tracks. Stratification of school education is typical, albeit to varying degrees, of all European countries [Horn 2009; Woesmann 2009]. An enormous body of literature has addressed institutional differentiation and the factors affecting academic tracking [Ammermüller 2013; Ball, Bowe, Gewirtz 1996; Buchner, van der Velden, Wolbers 2009; Dustmann 2004; Hanushek, Woessmann 2006; Maaz et al. 2008; Pietsch, Stubbe 2007; Schneider 2008; van de Werfhorst, Mijs 2010].

We suggest adding the aspect of school mobility to the debate on school tracking and stratification. Students may change schools for various reasons, but we are interested in school transitions within individual educational trajectories.

Parents in Russia, unlike in many other countries, have fairly broad opportunities in respect of school choice and not obliged to send their children to the school within their catchment area[1], although proximity to home still is a key factor of first-time school choice [Konstantinovskiy et al. 2006; Sobkin, Ivanova, Skobeltsina 2011; Tenisheva, Savelyeva, Alexandrov 2018]. Moreover, school choice is not restricted to the first grade, as surveys show that many parents do not regard the

[1] School admission rules have undergone considerable changes over the last 30 years. The current Law on Education (Law No.273-FZ) stipulates admission preferences for residents within the school catchment area, allowing schools to fill vacant places with children regardless of their district of residence. The law entitles the subjects of the Russian Federation to interpret the concept of catchment area in their own ways. For more details, see [Alexandrov, Tenisheva, Savelyeva 2018].

school attended by their first-grade children as the one they should graduate from. Interview and questionnaire results often demonstrate that school change is perceived by parents as a possible or highly probable option. As the child grows older and can move around the town on their own, they can be transferred from the nearest "regular" school to a gymnasium or specialized school according to the interests and abilities they have developed by the time [Tenisheva, Savelyeva, Alexandrov 2018; Alexandrov, Tenisheva, Savelyeva 2018]. Unfortunately, there has been no data on how often those intentions are actually fulfilled, and this study fills the gap to some extent.

We are guided by two objectives, the first one being to provide a quantitative description of student mobility in order to measure the stability of choices made by first-graders' parents. The second objective is to find out, using statistical models, which school characteristics count when choosing between the academic and non-academic educational tracks after Grade 9.

Our approach implies investigating school mobility in the context of stratified schooling and the closely related problem of (in)equality in access to education, which has never been studied from this perspective in Russian or foreign literature so far.

School Stratification and Inequality

More than 40 years ago, Joel Spring referred to schools as "the sorting machines" distributing young people among stratified levels of the labor market according to their interests, abilities, and educational attainment [Spring 1976] (quoted after [Kerckhoff 1995]). Using the metaphor in a broader sense, Alan C. Kerckhoff underlines that educational institutions form channels of intergenerational social mobility and determine individuals' chances of achieving a certain position in the social hierarchy [Kerckhoff 1995].

A lot of countries have education systems in which different types of schools offer curricula of varying quality, implying that further educational trajectories will be rather different for graduates of each school type. Although school stratification and tracking exist in nearly all communities, details vary from country to country. First of all, it is important how early the sorting begins and how strong it is, i.e. how much divergence there is among the tracks. For instance, it may suffice to be a graduate of any school to apply for higher education in some countries, whereas certificates of a certain type of school are required in others. Daniel Horn points out that low school mobility, when transitions between schools of different types are difficult or impossible, is a crucial characteristic of school tracking [Horn 2009].

Some authors suggest discriminating between explicit and implicit tracking [Maaz et al. 2008]. Explicit tracking implies availability of various types of schools with different requirements and curricula, as in Germany, the Netherlands, Belgium, and many other countries in Western Europe [Ammermüller 2012; Buchner, van der

Velden Wolbers 2009; Hanushek, Woessmann 2006]. With implicit tracking, schools have a unified formal organization and curricula but differ in teaching quality and student composition. Such divergences can be observed between schools in high- and low-income neighborhoods as a result of residential segregation, as in the case of the United States [Raudenbush, Eschmann 2015].

Countries with explicit school-level tracking systems differ in the age at which children are tracked into different types of schools for the first time. According to OECD statistics, most countries track their students at the age of 15 to 16 (Australia, Canada, Denmark, Finland, France, Great Britain, Greece, Iceland, Ireland, Italy, Japan, Norway, Poland, Portugal, Spain, Sweden, Switzerland, and the United States), and some at the age of 11 to 12 (Belgium, the Czech Republic, Hungary, the Netherlands, and Slovakia). The earliest stratification is typical of Austria and Germany, which track students into schools with different curricula at the age of 10, right after the completion of elementary school [OECD 2004]. The German school tracking system is considered to be one of the most stratified systems. Beginning with middle school, children are allocated among three different educational tracks, of which only one (Gymnasium) enables students to begin studying at a university, while Hauptschule and Realschule prepare students for vocational training. Prior to tracking, children attend elementary schools with nearly the same curricula; when they have completed Grade 4, they are recommended by teachers for the specific type of school according to their academic performance and achievement in elementary school [Pietsch, Stubbe 2007].

International school education assessments, such as PISA, PIRLS, or TIMSS, provide the opportunity to study the influence of institutional characteristics of national education systems on student performance, variation in educational outcomes, and intergenerational social mobility. To date, strong evidence has been accumulated in favor of the theory that the relationship between socioeconomic status and academic achievement is more manifest in the education systems with explicit tracking. Consequently, low intergenerational mobility and reproduction of educational inequality can be expected in countries with school tracking. Children from lower social classes are disproportionately more likely to be allocated to lower educational tracks and experience negative peer effects [Ammermüller 2004; van de Werfhorst, Mijs 2010]. The earlier tracking takes place, the greater educational inequality [Ammermüller 2012; Hanushek, Woessmann 2005; Maaz et al. 2008].

School Stratification in Russia

In Russia, formal tracking occurs at the age of 15, after the completion of Grade 9. 9-Grade graduates can choose between proceeding to Grades 10 and 11, or high school ("academic track"), and transitioning to a vocational school ("vocational track"). Teenagers intending to

obtain higher education usually complete eleven grades of secondary school, pass the Unified State Exam (USE), and get a high school diploma. In theory, vocational school graduates can go to university as well (provided that they take the USE test), but it will hardly be a prestigious university with quality education. The split into high school and vocational training is enshrined in law; curricula differ dramatically between the two tracks, making transitions between them impossible. Obviously, such tracking is explicit.

Therefore, explicit tracking in Russia begins after the completion of Grade 9. As for elementary and middle school, the situation is much less unequivocal. According to the 1992 revision of the Law on Education, the Russian education system offered different types of schools. Apart from the standard regular school option, the law mentioned specialized schools, gymnasiums and lyceums. Back in the 1990s, when the Soviet system of school education was under transformation, the newly emerged so-called "variable" system of educational institutions (gymnasiums, lyceums and specialized schools) was considered to be a positive trend in education, as it promised to create additional opportunity for student self-fulfillment. According to Anatoly Kasprzhak [2010], "lyceums, gymnasiums, and specialized schools look out for students capable of (motivated for) high-level intellectual activity, which dictates the need for selection". Schools of those types had a different legal status, which they had to verify through attestation on a regular basis, and which determined their level of funding. In addition, the status of gymnasium, lyceum or specialized school permitted the use of admission assessments even at the first-grade level. That is to say, there were legal grounds for student tracking and selection beginning with elementary school between 1992 and 2012.

Around 20% of Russian schools had a «high status» (namely gymnasium, lyceum, specialized school) in 2010 [World Bank 2012], yet the percentage varied greatly across regions (e.g. 35% in Moscow Oblast or 25% in Yaroslavl Oblast [Yastrebov, Pinskaya, Kosaretskiy 2014]). On the whole, the percentage of high-status schools in urban areas is higher than the national average, correlating positively with city size. St. Petersburg, for instance, has 73 gymnasiums, 44 lyceums and 130 specialized schools, which cumulatively account for 42% of all the schools in the city.

The education law of 2012 abolished status differentiation and formally equalized all the institutions of secondary education, turning former lyceums, gymnasiums and specialized schools into regular secondary schools[2]. Local educational authorities of some regions took things a step further, deleting the words "gymnasium" and "lyceum"

[2] Federal Law No.273-FZ On Education in the Russian Federation of December 29, 2012.

from school names, yet such regions were few. The schools that lost their official high status also lost the right to run first-grade admission tests. Under the new law, they were only allowed to turn students away if they had no more places left. Such "landscape grading" was designed to reduce the inequality of educational opportunity between high- and low-income families.

Despite equality under the law, gymnasiums and lyceums are obviously different from "regular" schools in the public perception. Researchers who conduct surveys related to schools and education assessment also tend to differentiate between regular and high-status schools (see, for example, [Avraamova, Loginov 2016; Avraamova, Klyachko, Loginov 2014; Alexandrov, Tenisheva, Savelyeva 2018; Prakhov 2012]). Unfortunately, there are no quantitative studies on different types of schools and school tracking at the levels of elementary and middle school. Attempts to discern between family and school effects on academic achievement have also been extremely few. The only exception is the study conducted by Alexey Uvarov and Gordey Yastrebov [2014] using data from the Monitoring of Education Markets and Organizations (MEMO). Family resources being controlled for, the high status of a school (namely lyceum, gymnasium or specialized school) was found to be the only school parameter related to academic performance. However, its impact was very low and so unstable that the authors considered it to be a statistical artifact. School grades were used as a measure in that study, yet their validity for comparing school performance is highly questionable as the same grades may correspond to different levels of knowledge in different schools. School effects would probably have been much more salient if the results of standardized tests (State Final Examination (SFE) or USE) had been used instead of grades, but unfortunately no such information is available in the MEMO database. Another study investigated the role of supplementary courses and investments in exam preparation training and showed that USE performance was significantly better among gymnasium and specialized school students [Prakhov 2012]. The two papers analyze individual-level patterns, but the same trend is observed on aggregated data, with average USE performance being higher in high-status schools than in regular ones [Yastrebov, Pinskaya, Kosaretskiy 2014]. Obviously, discrepancies between different school types persist despite formal equalization.

In a recent study, Yulia Kosyakova and her co-authors [Kosyakova et al. 2016a; Kosyakova et al. 2016b] introduce the concept of "pre-tracking" to describe situations where children attend schools differing in social composition of the student body and educational outcomes even before the formal division into academic vs. non-academic tracks. Our analysis of school mobility in the middle grades may shed light on the stability of school choices made prior to formal tracking.

School Mobility

Surprisingly little research has been done into school mobility, or school transitions, in Russia. A search through Russian-language scientific literature shows that most Russia-based studies in this domain have been done by psychologists and address the issues of adaptation to the new environment. Publications on student mobility in English are fairly numerous, focusing mainly upon the effects of school change on academic achievement [Mehana, Reynolds 2004; Rumberger, Thomas 2000; Swanson, Schneider 1999].

The incidence of school mobility can be very high. In the mid-1990s, only 50% of Chicago elementary students remained enrolled in the same school over a three-year period [Kerbow 1996]. As students grow older, mobility rates decline but still remain quite high. According to the U.S. Department of Education survey of 2002, 21% of eighth-graders and 10% of twelfth-graders had changed schools at least once in the two years preceding the survey [Rumberger 2003].

American and British researchers have found that switching schools most often has to do with moving to another district or city, the mobility rate being the highest among children from migrant families [Dobson 2008; Rumberger 2003; Swanson, Schneider 1999]. Other reasons for changing school include bullying, conflicts, unsafe/inappropriate learning environment, and transfer to a school that is more desirable to parents [Dobson 2008]. David Kerbow estimates that nearly 60% of transitions that were not caused by residential movement were associated with dissatisfaction with the previous school, and 40% with the attractiveness of the new one, which offered better academic programmes or better sports and extracurricular activities. In addition, it appears that families who move their child because of dissatisfaction with the previous school do not, in general, search far for a new location, whereas a more attractive school may be located quite far from home [Kerbow 1996; Kerbow, Azcoitia, Buell 2003].

In the context of this article, we are most interested in transitions to a more attractive school, which can be called “strategic mobility”. In the absence of explicit tracking, i.e. in a situation with standardised school curricula, students have an opportunity to modify their educational trajectory, for instance, by changing to a school that provides better preparation for college. Approaching school change “strategically” and seeking to enhance their educational prospects, students normally improve their academic performance, which has been confirmed in a number of studies [Teachman, Paasch, Carver 1996; Rumberger et al. 1999]. Do many of them exploit that opportunity, though? This question is answered in part in our study.

Data and Methods

Official data on student mobility among St. Petersburg public schools for the 2014/15 academic year was used as an empirical basis for research. The database contains information on all the students enrolled in all St. Petersburg schools (677 schools and nearly 400,000

students) during the specified period. The data was provided by the Regional Center for Education Assessment and Information Technology (RCEAIT), which is in charge of the Paragraph AMIS (Automated Management Information System). The Paragraph AMIS, obligatorily installed in every school, allows collecting, keeping, and processing of data on the educational institution, its staff and students. In particular, this system is used to maintain a record of student mobility, i.e. admissions and withdrawals (due to graduation or transfer to another school). Because secondary education is compulsory in Russia[3] and every child or adolescent should be enrolled at some educational institution until the age of 18, keeping a record of student mobility is strictly regulated, an entry being made in the Paragraph AMIS about each and every student withdrawal.

We used two subsamples from the RCEAIT database. First, data on 370,282 students enrolled in 582 schools—including 335 regular schools, 130 specialized schools, 73 gymnasiums, and 44 lyceums—was used to analyze the incidence and patterns of school mobility[4]. Schools classified under other categories (elementary schools, progymnasiums, remedial schools, open schools and boarding schools) were not included in analysis. Second, in order to construct a regression model predicting withdrawal from school after Grade 9, we sampled all the schools that provided records on the educational institutions to which their students moved after Grade 9. Unfortunately, schools are not obliged to gather this kind of information, so information about student choices after Grade 9 is often missing, thus essentially reducing the amount of useable data. The resulting sample includes 238 schools (137 regular schools, 53 specialized schools, 48 gymnasiums and lyceums) which kept records of further educational trajectories of 13,721 9-Grade graduates.

Analysis involved using the methods of descriptive statistics and linear regression with robust standard errors (the sandwich package in R). The choice of the latter method is governed by the skewed distribution of the dependent variable (percentage of students leaving school after Grade 9), which leads to heteroscedasticity in linear regression analysis; the problem is solved by using robust standard errors. Weight coefficients were applied to maintain the original distribution of school types.

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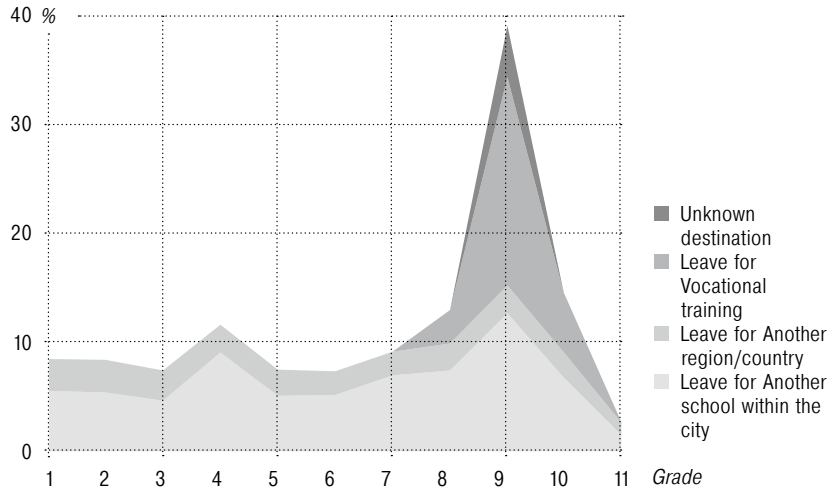
[3] Federal Law No.194-FZ On Amending Certain Legislative Instruments of the Russian Federation Due to the Adoption of Compulsory Schooling of July 21, 2007.

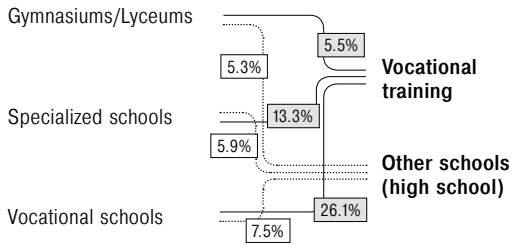
[4] Although the current education law has abolished school status stratification, the old names (gymnasium, lyceum, specialized school, etc.) have been officially retained and in the Paragraph statistical database in St. Petersburg (as well as in many other regions).

Figure 1. **The incidence of school mobility by grade**



Results At first, we analyzed the incidence of all school transitions between Grades 1 to 11, expressed as percentages of total cohort enrolment. Figure 1 presents the results, showing that 2 to 3% of students in every cohort withdraw from school yearly due to a change of residence, i.e. moving to another city, region, or country. This percentage remains almost unchanged throughout elementary and middle school and fades away by the end of high school. The incidence of within-city student mobility peaks in Grades 4 and 9, i.e. after the completion of elementary and middle school. Apart from those peaks, 5 to 7% of students in every cohort (but only 1.5% in Grade 11) switch schools within St. Petersburg yearly. Lacking data on the reasons for between-school mobility but drawing from international findings, we can assume that at least half of the children change schools due to residential movement. The others transition to another school may be attributed to school-related reasons, such as poor peer relationships, conflicts, etc. Some transitions are made "strategically" in a search for a better school. We suggest that such "strategic" transfers explain the school mobility peaks in Grades 4 and 9. Average school mobility rate for all the cohorts is 8.7%, of which 2.4% is accounted for by transfers to schools in another region or country and 6.3% represents within-city transitions. Around half of the students who ever changed schools did it twice or even thrice. Access to data on unique and recurrent transitions in every cohort allows estimating the number of children who never changed schools. In our sample, 65% of students remained in the same school in Grades 1 through 9. Adherence to a specif-

Figure 2. **Transitions from schools of different types after Grade 9** (percentage of all students enrolled in schools of a given type)



ic school increases even more when only middle school transitions are considered, with 85% of students attending the same school in Grades 5 through 9.

Transitions to vocational schools represent a separate category. They take place most often in Grade 9 (19%) and sometimes, but much less frequently,in Grade 8 (3%) or 10 (5%). Completion of 9-Grade also accounts for 4.5% of all transfers for which no data is available and which very probably falls under the vocational training category as well. The incidence of rates of transitioning to vocational schools estimated using the RCEAIT database are in line with the findings obtained by other researchers [Bessudnov, Malik 2016; Alexandrov, Tenisheva, Savelyeva 2015].

Next, we analyzed the differences in transitions after Grade 9 depending on the type of school. The results are presented in Figure 2. The incidence of transfers after the completion of middle school varies greatly across school types, ranging from the lowest in gymnasiums to the highest in regular schools, specialized schools falling in-between. In addition, schools of different types also differ in respect of where their students go after Grade 9. Withdrawals from gymnasiums are distributed evenly between high school (other school types) and vocational instruction, whereas schools of the other two types mostly deal with transfers to vocational institutions, the rate being especially high among schools with standard curricula.

The next step involved regression analysis to predict the share of 9-Grade graduates transferring to vocational training as a function of school characteristics. Table 1 shows the school characteristics used in the regression models. Records on the educational institutions to which students had transferred after Grade 9 were provided by 238 schools, including 118 regular schools, 51 specialized schools and 69 gymnasiums/lyceums. When constructing the models, we used weight coefficients to adjust the distribution of school types in the sample with the distribution of all schools in the city. Table 1 demon-

Table 1. **School characteristics used in the regression models.**

	Mean (SD)	Median	Min–Max
Percentage of 9th-graders transitioning to vocational schools	17.3% (14.8)	14.7%	0–67.7%
USE score in mathematics	47.8 (7.2)	48.0	31.1–79.5
USE score in Russian	64.3 (5.9)	64.7	50.3–83.4
Average school size (number of students enrolled)	713.9 (361.6)	664.7	157–2741
Average number of years of teaching experience for teachers	13.8 (2.4)	13.9	7.8–19.5
Percentage of students from outside the catchment area	11.8% (17.5)	4.6%	0–92%
Percentage of non-native Russian speakers among students	3.5% (4.2)	2.4%	0–41.3%
School occupancy rate	96.2% (20.3)	98.2%	35.4–211.0%

Note: All percentages and mean values are calculated using weight coefficients.

strates that schools differ dramatically in the percentage of 9-Grade graduates transferring to vocational schools, the widest gap being observed between regular schools and gymnasiums/lyceums. As seen from Table 1, this fraction ranges from 0 to 69%, i.e. there are schools where all students select the academic track as well as those where the vast majority of ninth-graders go to vocational schools.

We constructed a series of regression models with the percentage of 9-Grade graduates transferring to vocational schools as the dependent variable. The following variables from the RCEAIT database were selected to serve as predictors: school type (gymnasium/lyceum, specialized school or regular school), school size (number of students), USE scores in Russian and mathematics (five-year average), school occupancy rate (percent of state-rated capacity), average number of years of teaching experience for teachers, percentage of students from outside the catchment area, and percentage of non-native Russian speakers among students. The results are presented in Table 2.

Model 1 includes only the school type variable. On average 22% of ninth-graders leave regular schools (reference category) to enroll in vocational education, which is 14% higher than in gymnasiums and lyceums and 9% higher than in specialized schools, the differences being significant at the level of 99.9%. This model explains 19% of the variance of the dependent variable.

Explanatory power increases significantly when average USE scores in mathematics and Russian are added (Model 2), with the

Table 2. **Regression analysis results. Dependent variable: percentage of 9-Grade graduates transferring to vocational schools.**

	Model 1	Model 2	Model 3
Constant	22.38 (1.5) ***	83.24 (13.37)***	81.72 (15.68) ***
Gymnasium/Lyceum	–14.25 (1.75)***	–5.14 (2.48)*	–5.71 (2.64) *
Specialized school	–9.4 (2.03)***	–3.46 (2.05)	–4.01 (2.26)
USE score in mathematics		0.25 (0.16)	0.07 (0.16)
USE score in Russian		–1.18 (0.25) ***	–1.04 (0.27) ***
School size			0.005 (0.002) *
Average number of years of teaching experience for teachers			0.39 (0.35)
Percentage of students from outside the catchment area			–0.12 (0.04) **
Percentage of non-native Russian speakers among students			–0.2 (0.37)
School occupancy rate			–0.05 (0.05)
Adjusted R^2	0.19	0.26	0.29

Note: *** p<0.001; ** p<0.01; * p<0.05

new model explaining 26% of the variance. Meanwhile, the "specialized school" type loses its statistical significance, and the "gymnasium/lyceum" type becomes less significant, though maintaining the significance level of 95%. That is to say, with USE scores in Russian being equal, ninth-graders are less likely to leave gymnasiums/lyceums than schools of other types for vocational education. The USE score in mathematics turned out to be insignificant. The coefficients should be interpreted as follows: a one-point increase in the average USE score in Russian leads to a 1.18% drop in the percentage of students transferring to vocational schools after Grade 9. The gymnasium/lyceum status reduces the mobility rate by another 5.14%.

Adding more school characteristics to the model (Model 3) additionally explains only 3% of variance. School size and percentage of students from other neighborhoods proved to be significant (95 and 99% significance levels, respectively). The coefficients are interpreted in the same fashion as described above. Other school characteristics, such as average years of teaching experience, percentage of non-native Russian speakers among students and school occupation rate, were found to be insignificant. On the whole, the model explains 29% of the dependent variable, which is considered to be a good result. Still, the best part of the variance is left unexplained by the model, which means it is caused by unaccounted factors.

Discussion

The 1990s' transition from the unitary model to the variable one, granting every student the opportunity to select an "educational route", was perceived by educational professionals as a positive trend in the development of Russian school education [Vershlovsky 2004; Kasprzhak 2010]. Indeed, the diversity of schools offering the same basic curriculum along with specialized syllabi in specific subjects paves the way for personalized educational trajectories. Surprisingly, however, no empirical studies of school students' educational trajectories have been conducted so far. How often do children starting off as first-graders in a regular school and showing ability in a specific domain move to a gymnasium, lyceum or specialized school?

This study has pioneered research in school mobility in Russia. Based on a large empirical dataset (all transitions among St. Petersburg schools in the 2014/15 academic year), we demonstrate that changing school in Grades 1 to 9, i.e. before formal tracking begins, happens quite rarely, with 65% of students completing 9-Grade in the same school that they went to as first-graders. Student mobility is even lower in middle school, 85% of students attending the same school between Grades 5 to 9. Opportunities for school change are considerably broader in megalopolises and large cities than in rural areas, where there is often only one school per locality.

Analysis of educational transitions after Grade 9 (to other high schools or to vocational schools) reveals essential divergences among schools of different types. About 10% of students leave gymnasiums after Grade 9, with half of them transitioning to vocational schools and the other half to a different high school, compared with 13% and 6% in specialised schools and 26% and 7.5% in regular schools, respectively.

As soon as no information on school transfer reasons is contained in the statistical data available, we find it impossible to separate "strategic mobility" (choice of school type, specialization or curriculum; transitions in a search of a better institution to promote the child's self-fulfillment) from transfers caused by residential movement or poor peer relationships. Taking into account the patterns revealed in international studies, it is fairly safe to assume that the vast majority of school transitions are due to a change of residence or other non-academic reasons, with "strategic mobility" accounting for only about 1–2% of transfers yearly.

Our study shows that the idea of educational trajectory choice has not been realized, despite various school types and choice opportunities being available. Expansion of freedom of choice results in an educational market that favors educated middle-class families, where parents invest time and effort in analyzing and comparing different schools to find the best option possible. Less educated families are often unaware of how the education system actually works and lack the social and cultural resources to send their children to the best school. This is true for Russia as well as for other countries [Alexandrov, Ten-

isheva, Savelyeva 2018; Ball, Bowe, Gewirtz 1996; Bosetti 2004; Bunar, Ambrose 2016; Thieme, Treviño 2013].

Despite the legislative efforts (abolition of formal school statuses), wealthier and higher-educated families will always be more advantaged, which is explained by theory of "effectively maintained inequality". This theory posits that socioeconomically advantaged actors secure for themselves and their children some degree of advantage wherever advantages are commonly possible—either quantitative (years or levels of school completed) or qualitative. In terms of secondary education, that means selecting a higher quality school or following the most promising curricular track within a specific school [Lucas 2001].

Therefore, although there is no formal tracking before Grade 10 in Russian schools, implicit tracking begins already from Grade 1. Kosyakova and her co-authors suggest referring to this phenomenon as "pre-tracking" [Kosyakova et al. 2016a; Kosyakova et al. 2016b]. Pre-tracking is brought on by school status stratification[5], specific categories of parents that actively choose schools for their children and low school mobility.

Education is a process that proceeds in stages, and early educational career decisions have a strong effect on the choices available at later stages [Dustmann 2004]. The earliest educational decisions—the choice of elementary school—are made by parents and depend entirely on their social status, education and cultural capital. Children from lower socioeconomic backgrounds are most often allocated into lower educational tracks, where their disadvantage gets magnified. Earlier school stratification correlates with higher inequality [Ammermüller 2012; Maaz et al. 2008; van de Werfhorst, Mijs 2010]. It has been believed up until now that the earliest age of tracking is observed in the German and Austrian schooling systems; and even so, stratification in those countries takes place after the completion of elementary school, and children are allocated based on their academic performance (although their family's social class still plays an important role) [Pietsch, Stubbe 2007]. We can see, however, that in Russia the first important educational choices are made already at the age of seven [Kosyakova et al. 2016]. Those choices are made by parents and depend exclusively on their cultural capital, socioeconomic status, and ambitions, which allows some researchers to talk about "parentocracy", meaning that "education becomes ever-increasingly dependent on parents' revenues and wants rather than the child's abilities and efforts" [Konstantinovskiy 2010].

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[5] Although the current education law has abolished formal school status stratification, parents choosing schools for their children are perfectly aware of the differences in school reputation and prestige—the more so as the old status-indicating names have been retained by schools in most regions of Russia.

It is critical to consider the trends described in this article when developing educational initiatives. The experience of Russia and other countries shows that the opportunity to switch schools in order to build an optimal educational trajectory as such is not enough for students or their parents to make an effort to actually build such trajectory in the best possible way [Howell 2006]. Meanwhile, Russia has a positive practice—with very limited implications though—of students who win prizes in high-level academic Olympiads being actively recruited by the best schools and thus getting access to environments that are most conducive to the development of their talent. We suggest that this approach can be extrapolated to broader categories of children that express interest in specific academic domains. Active promotion of students' mobility between school of different specializations will not only help achieve the desired variability of school education but will also help reduce educational inequality.

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