

PROFESSIONAL REVIEWS

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Conceptual Approaches to the Study of Spatial Inequality: The Case of Russian Education



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Abstract

In Russia, the sheer size of the country and the diversity of its socio-demographic and economic contexts are factors that greatly shape educational outcomes and student opportunities. Current research on the spatial context of educational inequality is insufficient. There is a risk of underestimation of importance of spatial differences and the challenges they create for researchers and policymakers in the field of education. The purpose of this work is to analyze the existing conceptual approaches to the study of spatial inequality in Russian education.

This paper present two conceptual approaches to understanding spatial inequality, and, respectively, two different answers to the question of whether socio-economic differences between territories is the main factor in educational inequality. Much of the existing research on educational inequality in Russia follows the spirit, if not the letter, of “geography of opportunity,” in which spatial inequality is the geographic dimension of social segregation. This approach implies that due to the historically uneven distribution of economic capital in space, geography is becoming a significant factor that limits students’ opportunities in terms of access to educational resources, choice of trajectory and educational achievement. However, this does not take into account the more complex social hierarchy of space, which is described in the works of Bourdieu and his followers. This second approach opens up prospects for studying the symbolic status of space, as well as the spatial capital of individuals, organizations, and the territories themselves.

The approaches described in this article introduce new opportunities for educational researchers and pose a number of challenges for educational policy in Russia. This paper also shows the possibilities of operationalizing these concepts for transferring them to the field of education.

Keywords: spatial differences; inequality in education; educational outcomes; educational opportunities; geography of opportunities; spatial capital.

Introduction

One of the specific characteristics of Russia is the diversity of its territorial contexts. These are not only natural and geographical differences, but also social, economic, demographic, and cultural contrasts. The sheer magnitude of diversification may exceed that taken in some cross-country comparison. For example, in 2015, some Russian regions differed in the level of their economic development by 17 times. According to the World Bank report, in terms of GRP per capita in

purchasing power parity, Sakhalin Oblast is comparable to Singapore, Tyumen Oblast and Chukotka—with the UAE and Hong Kong, and Karachay-Cherkessia and Ingushetia—with Myanmar and Honduras [World Bank 2018]. There is also great linguistic diversity, with the share of the Russian-speaking population in different regions varies from 1% to 100% [Smirnova, Smirnov 2010].

Significant spatial differences are also present in Russian education. For example, it has been shown that Russian regions vary significantly in educational infrastructure [Zair-Bek, Belikov, Mertsalova 2016] and families' access to preschool and extra-curricular education [Barinov et al. 2015; Agranovich 2017]. In addition, due to the system of state subsidies in effect in some regions (for instance, in the North), the disparity in teachers' salaries and the volume of school per capita funding can reach several times [Derkachev 2014; Abankina et al. 2016]. Finally, spatial inequality is also observed in the students' academic results: for example, in 2015 the average Unified State Exam scores in the Russian language differed by 1.6 times, in mathematics—1.4 times [Zakharov, Adamovich 2020]. The data of the latest cycle of the international research PISA1 indicate that the regional differences in the literacy of students are comparable to 2.4 years of study, in mathematical proficiency—with 1.6 years of study [Adamovich et al. 2019].

In the context of the COVID-19 pandemic, the issue of access to the Internet and digital resources for students became particularly acute. However, this access is also largely determined by the spatial context. The availability and condition of telecommunication infrastructure in Russia varies by region and largely depends on the degree of remoteness of a settlement [Dyatlov, Selischeva 2014]. The cost of Internet access also varies in proportion to the income of the population. So, Moscow residents pay for the Internet on average 1.2% of their income, while the residents of Nizhny Novgorod and Khabarovsk pay for the Internet 6.2% and 18% of their income accordingly [Aleksandrova 2019]. In other words, the cost of access to the Internet, and the quality and speed of Internet connection in the capital and in some regions differ by dozens of times, which makes the intensity of its use incomparable. The resulting digital gap, which has its own spatial structure, reinforces existing socio-economic differences and limits the educational opportunities of students.

However, these and many other studies concern only individual manifestations of spatial inequality and are not supported by a theoretical base or a unified conceptual framework. For example, space can be viewed as a factor in access to education—through transport accessibility or distance [Konstantinovskiy et al. 2006; Abankina, Filatova 2018], or as a factor in educational achievement—through the level of urbanization of the territory [Kuzmina, Tyumeneva 2011; Yastrebov et al. 2013]. On the other hand, some studies of educational inequality do not consider the spatial nature of the analyzed data (for example: [Barinov, Belikov, Polyakova 2016]). Finally, in some works, spatial inequality is reduced to socio-economic inequality, such as differences in the level of urbanization of the territory [Bogdanov, Malik 2020]. At the same time, the development of sociological theories of inequality in other scholarly disciplines that study spatial differences, such as geography and urban studies, may be of particular interest to researchers of inequality in education.

The main purpose of this paper is to analyze the existing conceptual approaches to the study of spatial inequality and identify possible directions for their transfer to the field of education research. This article answers the following research questions: how do existing theoretical approaches address spatial inequality, and how can these approaches be applied to the field of educational research? To answer these questions, we summarized relevant key theoretical works from the field of geography and urban studies and their usage of spatial inequality concepts and operants, in order to use them as a prism through which to further examine current studies in Russian education.

¹ <https://www.oecd.org/pisa/>

This work may be of interest to researchers of education in Russia and in other countries characterized by an expanse of geography, complex administrative-territorial structure and/or territorial variability of the educational system.

Materials and Methods

In sociology, spatial inequality has traditionally been defined as the *unequal distribution of benefits between territories* that has been shaped by historical and natural elements and as a result of political processes [Lefebvre 1972: 188; 1991; Fainstein 2014; Israel, Frenkel 2018].

At the first stage of the study, we carried out an aspect analysis of key theoretical works on spatial inequality using the documentary research methodology by G. McCulloch [2004]. These theoretical studies were examined in terms of the concepts of spatial inequality they use, as well as the possibilities they allow for the operationalization of accompanying indicators that could be used in the assessment of types of educational situations, academic achievements of students and their career trajectories (i. e. in studies focused on inequality in education). The aspects of spatial inequality identified at this stage made it possible to single out two key conceptual approaches to defining and studying spatial inequality that are used in educational research.

The first approach is the concept of the geography of opportunity, introduced by the American geographer and urbanist Edward Soja and further developed by Ruth López-Turley and Nicholas Hillman. In this approach, spatial inequality is viewed as the geographic dimension of social segregation. More broadly, the neo-Marxian geographers used to evaluate spatial inequality as a function of the capitalist mode of production [Castells 1972; Harvey 1973]. Critical geography sees spatial injustice as one of social mechanisms that conceal the asymmetry of power relations in cultural, gender, race, and class cleavages [Soja 2013].

The second approach is the space concept of the French sociologist Pierre Bourdieu, which was further developed in the works of the French school of geographers and urbanists (Jacques Lévy, Michel Lusseault). In the concept of Bourdieu and his followers, spatial inequality is associated with, but not reduced to socio-economic differences, and is considered an independent phenomenon.

At the second stage, we examined some empirical studies that have been carried out using these theoretical frameworks, and have already attempted to transfer their concepts to the sphere of education. These works considerably substantiate our claim for the possibility of such an interdisciplinary transfer. At the third stage we analyzed empirical works based on contemporary data from Russia, and that consider, to a greater or lesser degree, the spatial component as a predictor of students' educational outcomes and their choice of educational trajectory. These works were also considered from the position of the operants they utilized, and their potential for the application of spatial inequality concepts.

Results

The conceptual approaches described in this paper have been formed in parallel on both sides of the Atlantic. Academic dialogue between representatives from different schools, American and French, has been conducted for several decades. In this article, we will omit historical details and chronology for reasons of brevity, and only present the main positions for which significant differences are observed.

Spatial Inequality in Education as a Geographic Dimension of Social Segregation

A seminal work for this conceptual approach is 'Explanation in Geography' by geographer David Harvey [1969]. Harvey draws attention to the geographical nature of inequality and to the fact that historically in

Marxist understanding, economic capital has always been unequally accumulated in space. Moreover, the political and economic system of capitalism could not exist without geographical expansion, spatial reorganization and uneven geographical development [Harvey 1996]. Thus, the present unequal distribution of capital in space, Harvey formulates, is a phenomenon that has its own historical and civilizational origins, and which cannot be overcome at the current stage of development. Moreover, it lays the preconditions for the further growth of spatial segregation [Harvey 2001]. In the modern world, where the main global market economy is competition, such an uneven distribution of capital can increase, and lead not only to socio-economic segregation of individuals, but also to further uneven economic development of territories—both countries and regions within countries.

This approach led to the development of the concept of “geography of opportunities”, in which the inhabitants of some territories take advantage of the accumulated capital, and get more opportunities for further development and augmentation of this capital than the inhabitants of less advantaged territories. However, the mechanisms of this development and capital multiplication can be different.

For example, the American geographer Edward Soja continues Harvey’s line of thinking and views spatial inequality (“spatiality”) as a geographic form of class segregation. However, the change in spatial inequality, according to Soja, is associated with political measures and decisions. On the one hand, the current political measures support the existing segregation of space, since they are adopted within the paradigm of control over existing forms of material life (“competitive struggle to control the forces which shape material life” [Soja 2013: 159]). On the other hand, political decisions made without considering spatial inequality only exacerbate it (for example, opening a university campus, which would reduce unemployment and increase the availability of education in a disadvantaged area, usually takes place in a prestigious area, where there are fewer such problems anyway) [Soja 2013].

Geography often becomes a blind spot not only for politicians, but also for researchers, including in the field of education. This gap was highlighted by Ruth López Turley in her research on the educational trajectories of American students [Turley 2009]. She drew attention to the fact that the traditional approach to the study of predictors of educational trajectory choice does not consider place of residence as a significant characteristic, despite the fact that it determines the student’s access to resources, including educational ones. As such a resource, Turley considers the proximity of college to the student’s place of residence, and identifies two mechanisms by which this can affect the educational opportunities of the student. The first mechanism presumes that college proximity might ease the student’s enrollment in college in terms of logistics, finance and even emotions. The second mechanism has to do with educational aspirations. It is assumed that the territorial accessibility of colleges can increase the school graduates’ predisposition to enrollment [Turley 2009: 127–130].

The idea of the geography of opportunities is also developed in the works of Nicholas Hillman. He uses the example of college infrastructure in the United States to show the inequality of access to education in terms of “deserts” and “oases” [Hillman 2016]. His analysis indicates that “educational deserts” are more common in areas where there are more people of ethnic minorities or lower socio-economic status. As a result, the educational opportunities of students from such “educational deserts” are limited not only by their own capabilities and preferences, but also by the infrastructural barriers of their educational environment. Thus, ignoring the spatial dimensions of educational opportunity leads not only to overlooking some of the underlying origins of inequality, but also to the failure of attempts to provide a detailed explanation of how and why students opt for a certain college [Hillman, Boland 2018].

Researchers using this approach consider the geographical aspects of not only educational trajectories but also the academic results of students. For example, American sociologist Vincent Roscigno examines spatial inequality of performance of US students in terms of the difference in resources available to both students’

families and schools, between inner cities, suburbs and rural areas. Roscigno and his colleagues distinguish primary and secondary effects from living in more developed territories. Firstly, these are direct positive effects of the availability of significant resources, and secondly, these are indirect effects of investment of these resources in children's education [Roscigno, Tomaskovic-Devey, Crowley 2006]. In other words, decisions on investments in children's education depend not only on the available resources, but also on the availability of education, the local labor market, and historically formed ideas about the effectiveness of such investments.

Empirical studies within the framework of this approach were carried out in Russia as well. For example, the type of settlement and the level of urbanization turned out to be significant predictors for the choice of educational trajectories [Francesconi, Slonimczyk, Yurko 2019; Bogdanov, Malik 2020], students' science literacy [Kryst, Kotok, Bodovski 2015], and the Unified State Exam scores [Zakharov, Adamovich 2020]. A more detailed analysis of these and other works in the context of the concepts of spatial inequality is presented in the final section. However, when reading these and other similar studies, the question inevitably arises: how well do indicators such as the level of urbanization and distance (for example, to the regional center [Francesconi, Slonimczyk, Yurko 2019]) account for spatial differences? The papers that utilized a different approach to understanding space, will help to answer this question.

Spatial Capital and the Symbolic Status of Space

The impetus for the development of this approach to understanding spatial inequality was the work of the French sociologist Pierre Bourdieu, who developed the concept of capital and identified such forms as, for example, cultural and social capital [Bourdieu 1984]. It is worth noting that Bourdieu's contributions to the study of spatial differences unfairly received less attention in this area. This is partly due to the fact that the sociospatial concept occupies a relatively small place in his work compared to other concepts.

Thus, Bourdieu describes space not so much through the prism of geography as through its social hierarchy. The position of the individual in this hierarchy is determined not by the social class itself, but by the different capital that an individual possesses. The use of various forms of capital—economic (financial assets and cash income), cultural (education, knowledge, moral and aesthetic values), and social capital (social networks and relationships)—allows a person to receive social benefits [Bourdieu 1984]. Space is also a “field”, a kind of social arena in which these forms of capital are played out.

Interpretation of space in Bourdieu's works is also anthropological in nature. He assumes that space is socially structured in such a way that the most valuable or prestigious resources are located in special zones (in the Russian context, for example, this might be the “red corner” where an icon is placed in a peasant hut). In his work “The Weight of the World: Social Suffering in Contemporary Society” [Bourdieu 1999], Bourdieu identifies two interrelated concepts: *site* (physical place, location in space) and *localization* (position, place in the hierarchy):

Site is the point in physical space where an agent or a thing is situated, “takes place,” exists: that is to say, either as a localization or, from a relational viewpoint, as a position, a rank in an order <...> In the most diverse contexts, the structure of social space shows up as spatial oppositions, with the inhabited (or appropriated) space functioning as a sort of spontaneous symbolization of social space. There is no space in a hierarchized society that is not itself hierarchized and that does not express hierarchies and social distances <...> The result is a concentration of the rarest goods and their owners in certain sites of physical space [Bourdieu 1999: 123–125].

Like Harvey, Bourdieu assumes the existence of an uneven structure of space, where the most prestigious and demanded resources are concentrated in some areas, while there are shortages in others. People who live in

areas where the concentration of desirable resources, prestigious goods and services is higher, can use them to maintain and further improve their social and economic status. Conversely, economically disadvantaged areas tend to further deteriorate the quality of life of their inhabitants. Bourdieu develops this idea and says that as a result of these processes, the symbolic status of space is formed—for example, when a decrease in the quality of life of the inhabitants of the area leads to its stigmatization or “pathologizing”. Thus, space affects not only the material, but also the symbolic status of individuals—for example, it is the symbolic status of a ghetto resident, a suburbanite, or even specific areas and districts. Moreover, symbolic space in Bourdieu’s understanding has material and non-material boundaries, which include some groups of people and exclude others, increasing the inequality between them. At the same time, no one can occupy two opposite positions in the social space at once, just as one cannot simultaneously be in two different geographical points.

Bourdieu’s ideas were advanced in the works of another French researcher, geographer and urbanist Jacques Lévy. Continuing the Bourdieu’s tradition, Lévy describes space in terms of capital, and defines spatial capital as “all resources accumulated by an actor enabling him or her to benefit, according to their strategy, from using society’s spatial dimension” [Lévy, Lussault 2003]. In other words, spatial capital is a collection of resources accumulated by an individual, which allow him to interact with place and space and use the spatial structure of society to obtain benefits.

Possession of spatial capital implies the ability to quickly access a particular type of resource (or a certain amount of resources). From this point of view, urban dwellers have large spatial capital, both due to the accumulation of various resources in the urban area, and in terms of the speed of access to them due to the developed infrastructure.

Lévy develops the concepts of site and localization by Bourdieu, highlighting two components of spatial capital: *positional capital* and *situational capital* [Lévy 1994]. Positional capital determines the value of a position, a place that an individual occupies in space (the place where a person’s house or office is located). Lévy gives the following example: in the conditions of the geographical limitedness of the city, space can also be a rare commodity and be an object of competition (the “golden mile” in New York, Ostozhenka street in Moscow). Situational capital determines the area of space available to an individual through the distance that he can cover using all types of mobility [Lévy 1994: 95]. Mobility, on the other hand, can be a tool to compensate for the lack of positional capital.

The empirical research in education carried out within this framework, is scarce; however, some is available. It shows that the sociospatial concept of Bourdieu can be fruitfully extended and applied to describe a separate place (dwelling, house), but also to characterize entire territories, without expanding or changing its original interpretation [Soja 2013]. For example, it has been shown that the symbolic status of space matters in the choice of school by households [Yoon, Lubienski, Lee 2018]. In another work, a visualization of the social space of Helsinki schools was made, and an analysis of educational opportunities and restrictions that the hierarchy of this space imposed on the families of the city, was carried out [Kosunen 2016].

Attempts were also made to operationalize positional and situational capital in education in relation to the students’ opportunities [Séchet, Veschambre 2006; Barthou, Monfroy 2010]. These studies showed that positional capital, expressed through living in advantaged and disadvantaged areas of the city, is itself associated with access to educational resources and is superimposed on socio-economic differences, exacerbating them. Moreover, the direct effect of the socio-economic context on the students’ school choice turned out to be lower than expected after controlling spatial characteristics.

In Russia, as far as we know, Bourdieu’s sociospatial concept is practically not considered in educational research. Some groundwork for its application is laid by a few studies that focus on the sociocultural typologiza-

tion of Russian regions. For example, Sobkin [Sobkin, Pisarsky 1998; Sobkin, Yanbekova 2014] attempts to describe the social hierarchy of space through six interrelated and opposing types of socio-cultural situations, and considers the characteristics of the education system and the share of the population with higher education as one of the indicators in this typology. In other studies, authors typologize sociocultural situations of schools themselves (“school in a cultural center”, “school in a former cultural center”, “school in a potential cultural center”, “school in a cultural desert”), raising the question of the importance of the spatial context of school for building its policy and making administrative decisions [Tsirulnikov 2009; 2014; 2020]. However, these studies do not focus on the effects that such social hierarchy of space have on educational outcomes and student opportunities.

Analysis of Empirical Studies Carried Out within the Concepts of Spatial Inequality in Education

As it has been shown before, the specificity of educational inequality in Russia is determined in many respects by the variety of spatial contexts. In this section we analyze the theoretical and conceptual bases of the studies that estimate relationships between spatial context and characteristics of Russian education. There is a number of research papers that does not follow the first conceptual approach literally, but can be seen as following its spirit. For example, students’ educational results in mathematics in TIMSS and in PISA are analyzed in terms of socio-economic status of their families, school and teacher characteristics [Carnoy et al. 2016]. Although spatial differences are not the focus of this study and are present in the analysis only indirectly, the authors record spatial specificity related to the prevalence of certain types of educational institutions. Thus, the authors note that selective schools with advanced curricula, lyceums and gymnasiums, are more typical for urban areas, and such educational institutions as educational centers are present only in Moscow [Carnoy et al. 2016: 1063]. Another study considers the level of urbanization as one of the indicators of the social situation in which schools are functioning, and on which their efficiency depends [Pinskaya, Kosaretsky, Frumin 2011]. The authors of this study also note the presence of regional specificity, according to which the share of disadvantaged schools in the region and their territorial affiliation change; however, they do not focus on this result.

Other works refer directly to the concept of opportunity geography and the work of Hillman and Turley; and pay more attention to spatial specificity. In particular, Bogdanov and Malik [2020] in their study take into account the size of the respondents’ settlements, and, accordingly, place Moscow and St. Petersburg in a separate category. This can be seen as an attempt to consider the symbolic spatial status of the two Russian capitals; however, other potential differences within the highlighted categories are not included into analysis. For example, in terms of the choice of educational trajectory, living in a small village near a capital or near a city with a large presence of universities, is not identical to living in a small village in the middle of an “educational desert,” in Hillman’s terms. Consideration of the spatial structure of the data, namely the inclusion of proximity and/or distance between settlements in the analysis, would help to control for these features. On the other hand, it remains an open question whether the model used by the authors fully accounts for the differences between living in a village and in an elite settlement, even when controlling for the socioeconomic status of students’ families.

The use of the concept of spatial capital and its components could remove other possible biases in the studies of students’ educational trajectories. Thus, the positional capital of space, operationalized, for example, through the value of the territory (land) itself, can complement the idea of the socio-economic capital of the family. On the other hand, situational capital, measured through the geographical mobility of the student, would suggest educational mobility as well—for example, the opportunity to study at a more prestigious school in a larger community in the neighborhood or to attend preparatory courses for admission to a university, which, in turn, expands educational opportunities for students.

In another paper devoted to assessing the effects of the introduction of high stakes testing in Russia on students' educational opportunities, not only the size of the settlement is taken into analysis, but also the distance from the respondent's place of residence to the regional centers [Francesconi, Slonimczyk, Yurko 2019]. This allows researchers to analyze the social hierarchy of space within a region, but not between them. This is a particularly important point in the context of the specifics of educational migration of Russian students because they prefer to enroll in Moscow and St. Petersburg instead of the universities in regional centers [Gabbrakhmanov 2019; Gabdrakhmanov, Nikiforova, Leshukov 2019]. The authors analyze the federal districts in which the respondents live but only at the stage of testing the balance between the experimental and control groups, and do not use this indicator further in the analysis. However, it is the combination of the distance of the locality from the regional capital and the federal district that could provide a more complete picture of the respondents' positional capital. On the other hand, the authors add to the model such an indicator as students' relocation costs associated with higher education. In terms of the concept of spatial capital, this can be seen as an attempt to operationalize the situational capital of students.

Finally, there are a few papers that assess the relationship between the quality of education and the cost of housing in different Russian cities. For example, apartments in Moscow, which are territorially assigned to schools that demonstrate higher educational results of students on the USE, are priced higher [Chugunov 2013; Roschina, Vashchenko 2020]. In another study, the results of spatial autoregression analysis showed that the growth of the cost per square meter of housing in Perm correlates with such indicators of education quality as USE scores and the share of winners in the school subject Olympiads [Ozhegov, Kosolapov, Posolotina 2017]. The authors of another study from Novosibirsk showed that the school education quality significantly affects the cost of housing: an increase in the share of students who fail the USE insignificantly reduces the price of housing in the areas attached to schools [Mishura, Shiltsin, Busygin 2019]. These and other works can also be considered in terms of the concept of spatial capital, because in fact they operationalize both positional capital of the studied housing (not only its location itself, but also the price, number of rooms, number of floors and the age of the building) and situational capital (distance to the nearest subway station). But it is important to note that in these studies spatial capital is considered only as a function of the quality of school education, although the methodology of the works in most cases does not allow to draw conclusions about the direction of the relationship between these two concepts. The reverse connection is practically not considered in Russian studies of education, because, as it has been shown above, the characteristics of spatial capital are most often reduced to the socio-economic differences between students and their families.

Thus, we conclude that studies of the spatial context in Russian education rarely consider conceptual and theoretical frameworks related specifically to the spatial aspect, while the latter could potentially enrich and complement the obtained results. This makes this conceptual review even more relevant for future works specifically in the field of sociology and economics of education.

Discussion

This paper shows the importance of taking into account the spatial component in research on educational opportunities and student outcomes. This is consistent with Hillman's thesis that geography shapes educational opportunities of students [Hillman 2016; Hillman, Boland 2018], and Russia is no exception. The effects of the spatial component can overlap, as well as exacerbate existing socio-economic differences. However, existing studies often ignore the special dimension, or take it into account insufficiently—for example, only by accessing the level of urbanization. At the same time, the social hierarchy of space remains outside the focus of research. Further empirical research is needed to show the scale of the corresponding bias in the estimates.

The conceptual approaches analyzed in this paper open up new opportunities for studying and understanding the mechanisms of spatial inequality. Thus, we could argue that Bourdieu's ideas about the symbolic status of

space are of most importance for understanding the educational trajectories of Russian students; namely,—how the choice of school, college or university is made [Bourdieu 1984; 1999]. As we have mentioned above, the concept of Lévy's spatial capital can be used in the analysis of educational mobility of students, where, for example, living near the source of educational resources (educational organization) can be regarded as positional capital, and physical mobility and transport accessibility can be considered as situational capital. Prospects are also opening up for research on spatial capital not only of students and their families, but also the educational organizations themselves, as well as the relationship between them. Of particular interest are studies of student learning outcomes and the contribution of spatial capital and the symbolic status of space to their explanation.

Considering the results of aspect analysis of existing research, recommendations for further research were formulated. In the case of small countries, where spatial differences are less significant, it may be appropriate to use the first approach by Harvey, Soja and Hillman, where socio-economic segregation comes to the fore. Many empirical works, including those on data from Russia, were carried out in line with this approach. However, in large and contrasting countries, underestimating the spatial component can have more serious consequences. In such situations, Bourdieu's sociospatial concept appears to be a more appropriate conceptual framework, since it allows one to consider the social hierarchy of space, which is superimposed on existing differences in capitals.

The results obtained are important for educational policymaking. Here we could agree with Soja that “decisions made without taking spatial inequality into account only exacerbate it” [Soja 2013]. Thus, it should be retained that the symbolic status of a space can introduce biases in the resource allocation, decision-making on the opening of new educational organizations, making recommendations, choosing territories for innovations' approbation, as well as determining objects of targeted support, etc. On the other hand, spatial effects can manifest themselves indirectly. For example, the spatial capital of a university can determine its availability for certain types of applicants, which, in turn, affects the numbers and quality of admission—and these indicators are an important component for decisions on measures of state support and regulation of universities.

In the context of the world COVID-19 pandemic and the change to distance learning, the consideration of students' spatial capital is assumed to be even more significant for educational research. This is especially important for Russia, since access to the Internet and its quality is determined by the ICT infrastructure, the availability and condition of which is very dependent on the region and its remoteness. Accordingly, students' educational opportunities online are also limited by the space in which they are located and are not fully accounted for by such characteristics as “city” or “rural area”. This, in turn, may be one of the mechanisms by which the growing digital divide contributes to growing socioeconomic disparities.

Finally, it is worth to note that this paper has several significant limitations. First, it deals only with some of the dominant concepts of spatial inequality in the field of geography and urban studies. Moreover, as far as we know, it is one of the first attempts to transfer these concepts into the field of studies of inequality in education, so this paper shows only general directions for such a transfer. Finally, the focus of this paper is limited to highlighting the theoretical and methodological prerequisites for considering the spatial component in studies of inequality in education. Future empirical work performed in line with the described conceptual approaches is needed in relation to Russia and other countries characterized by multi-componential, large geographical expanse and diversity.

Conclusion

These results of aspect analysis provide two alternative conceptual approaches for research and policy-making in Russian education.

In the first approach, the concept of the geography of opportunity, introduced by the Edward Soja, socio-economic segregation overlaps existing spatial differences. The aspect analysis of existing studies shows that this approach is more suitable for research in small countries where internal socio-economic differences are smaller, due to the risk of estimation biases. Most of research in education in Russia are done under this approach, and it's hard to estimate the effect of spatial component there because of its limited operationalization.

The second approach is the sociospatial concept developed by the French sociologist Pierre Bourdieu, who did not reduce spatial inequality to socio-economic differences, and considered how both types of inequality interact with each other. Our paper demonstrate that this approach is a more appropriate conceptual framework for the analysis in large countries with many internal contrasts, providing new possibilities of operationalizing space in education context. Future research is needed to determine the exact scale of underestimation of spatial effects in education inequality.

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