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MASTER THESIS

Comparative Analysis of Subjectively Perceived Quality of Life as a Factor of Labour Mobility among Russian Juniors

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Introduction

According to the FPO, 29% of young professionals would like to permanently move [FPO, 2014]. One of the possible reasons for the desire to leave the current location of living can be regarded as the absence of a developed labour market due to the fact that 22% of young people indicated that problems with employment prevent them from realizing themselves [FPO, 2016]. Labour mobility is a complex social process that affects various spheres of human life. The importance of studying labour migration lies in the fact that a significant outflow of the population can entail serious economic, demographic and social consequences both at the regional level and at the country level as a whole country [Kerr et al., 2017].

The decision on taking part in labour mobility is based on the comparison of several characteristics and aspects of life in the place of current residence and desired place of living. These aspects for comparison could be career and earning opportunities [Kashnitsky, Mkrtchyan, & Leshukov, 2016; FPO, 2016], amenities [Gottlieb, Joseph, 2006], and social setting [Wilkinson, 2007]. If the total satisfaction with these characteristics in the place of current residence is lower than in the desired place of living, the individual is more likely to move to the desired place.

The mentioned indicators could be concerned as part of the quality of life concept. It is a mainstream complex concept which is used to measure satisfaction with different aspects of life, including social, cultural and economic in a particular location [Kerce, 1992; Andrews & McKennell, 1980]. For instance, quality of life could be presented as an index focusing on the level of satisfaction with healthcare, transport, career and business opportunities, security and housing conditions, salary level by profession, culture and leisure development in the place. The level of quality of life may emphasize issues and weak sides of the place, which might be vital for policymakers to improve the place. Consequently, quality of life could be also linked with the labour mobility process, since at the decision-making process the individual compares the different aspects of life in the place of current residence and in the desirable place of living, which are also the indicators of life quality.

Therefore, several studies state the fact that there is a direct association between the different aspects of life, which are part of the life quality concept, with the decision on relocation [Sjaastad, 1962; Wilkinson, 2007; Rossoshanskii, 2019]. However, the research does not highlight the effect of quality of life as the whole concept and index on the labour mobility process. And what is more important, previous results are focused only on specific aspects of life, not at all indicators of quality of life in order to measure the marginal effect of each particular indicator of quality of life on the decision on labour mobility.

The majority of the migrating population is the young highly educated and qualified specialists and some of them start the mobility process when they leave school, taking part in educational mobility through university [Florinskaya et al., 2014; Mkrtchyan, 2013; Glaeser, 1999; Costa, Kahn, 2000; Florida, 2002]. The phenomenon of labour mobility among junior specialists leads to the fact that regions experiencing demographic decline need to send people from other regions or retain current residents for economic development. In particular, such regions are interested in young specialists who are the most active group of the population in the issue of migration [Mkrtchyan, 2013]. Moreover, junior specialists of particular specializations are more tended to take part in labour mobility more than others. [Wilkinson, 2007; Dao et al., 2018; Sprung-Keyser, Hendren, Porter, 2022]. Especially graduates of economics, management and information technology fields of study are more likely to relocate for work compared to others [ILO, 2017; European Commission, 2018; HSE, 2019]. The specific set of skills which is similar to human capital could determine the propensity of relocation among graduates. Nevertheless, previous studies do not consider the comparison between different university backgrounds in terms of the association between relocation and quality of life.

Consequently, in this paper, there is an attempt to fill the knowledge gap in the understanding of labour mobility in terms of quality of life with a comparative perspective based on the field of study among graduates. The research question is: "*How does the level of subjective quality of life in the place of studying determine the labour migration among Russian graduates from different fields of study?*". Thus, the aim of the research is to examine quality of life as the factor causing labour migration among Russian young professionals from different fields of study. There are some hypotheses, testing which we could achieve the goal of the study:

- Since the decision on relocation is based on the comparison of different aspects of life which are the components of life quality, and the satisfaction or dissatisfaction with these aspects determines the fact of labour migration [Sjaastad, 1962; Lee, 1966; Moiseenko, Chudinovskikh, 2000; Whisler, Waldorf, Mulligan, Plane, 2008; Rossoshanskii, 2019; Wilson, 2021], the higher estimates of quality of life in the locality of study decrease the likelihood of migration in another locality for work;
- Economic components of quality of life such as salary level by profession, career opportunities, opportunities for organizing your own business, and entrepreneurial activity have a higher effect on the decision of relocation than social ones like healthcare, transport, and living security. That is because of the fact that one of the important factors driving migration is the economic characteristics of the region and the assessment of their own prospects for career development and social capital [Ravenstein, 1885; Moiseenko, 2004; Whisler, Waldorf, Mulligan, Plane, 2008; Wilson, 2021].

- Graduates from economic backgrounds have more propensity to relocate for work due to the fact that they have a wide-spread set of skills to be more mobile for career and job seek [European Commission, 2018; HSE, 2019]. Thus, the average scores for quality of life (index and separate indicators) would be lower for this category of graduates compared to other specializations.

For the purpose of the paper, the secondary data of the panel study "Trajectories in Education and Careers" (9th wave, 2020) is used. The sample is based on employable bachelor graduates from economics, STEM, humanitarian and social science, medicine and natural science. In order to reach the aim of the research we apply the average scores testing and the binary choice models with and without interaction effects as statistical tools.

Theoretical framework[1]

Nowadays there are various approaches to detecting the causes and reasons for mobility among juniors. Studies concern the phenomenon of labour migration and the leading factors from different points of view, based on several theories. The majority of papers emphasize similar trends of the juniors' migration process and causes leading to the decision to move to another location due to work opportunities. And only a few of the research illuminates the role of subjectively perceived quality of life as a possible booster or, instead, a possible hinder of labour mobility.

Describing the results of previous studies, in this paper the main focus would be devoted to the potential effect of life quality on the decision-making process of junior Russian specialists about relocation. Moreover, we will explain in more detail the relevance of studying youth labour mobility. To do this, the migration process among young professionals will be described, and a classification of the causes and motives of migration will be presented (in our paper, we consider mobility as a migration). In addition, we consider it important in the context of youth migration to study the problem of Russia's monocentric, to determine its main causes and points of attraction for young people, as well as to determine whether there are countries where migration flows look similar. We will consider the various consequences of migration (economic, social, demographic) both at the level of the region and the country as a whole.

1. Labour mobility process

"Labour mobility" is already mentioned term before, however, it is crucial to introduce the definition. Social mobility is a phenomenon, which describes the movement/relocation of particular individuals from one socio-economic position to another one. There is a common rule to distinguish vertical social mobility, which could be defined as moving up or down the socio-economic hierarchy, and horizontal, meaning geographical. Also, the vertical type of social mobility could be distinguished as ascending and descending [Giddens, Griffiths, 2006]. Both types of social mobility could usually be combined and considered together, especially in terms of labour migration. Consequently, in the current research, we can consider the process of labour migration as the equivalent of social mobility due to the fact that particular people make the decision not only on geographical relocation but also on changes in socio-economic status and position. Since the phenomenon of labour migration (or geographical displacement) is linked to the work and labour market, it also leads to a change in the socioeconomic position of individuals.

[1] This part of work bases on the term paper of the author. Shcherbakova D. (2022). Analysis of Labor Migration Patterns among Junior Specialists.

Labour migration is understood as the spatial movement of the able-bodied population to obtain income or earnings [Bezborodova, 2011]. Russia is characterized by both international labour migration, which consists of moving to another country, and interregional migration. If we talk about interregional migration, it is centripetal: most of the mobile population moves both to the largest centres – to Moscow or St. Petersburg, and regional capitals. Interregional migration is one of the most common types of labour migration among the Russian population. According to Federal State Statistics Service, in 2019, the number of people who worked outside their region amounted to 2.9 million people in another region and 72.8 thousand people in another state [Federal State Statistics Service, 2019, 2020]. In 2020, about 6 million people were involved in the internal migration of the population. Both at the level of the region and the state as a whole, the problem of labour migration is one of the most important issues, since the sustainable development of the country and its regions requires an effective distribution of labour resources [Aguzarova, Besolov, 2013].

Social mobility in terms of labour migration among juniors could be realized through different strategies. In this study, the decision on work relocation might be considered as some kind of the final point of the juniors' trajectory. There are several strategies, which may lead to the such final result as work in another city or region. One possible is educational mobility since career expectations appear among students during their academic path and education in university [Shibanova, Malinovsky, Toylug-llc, Dudina, 2021]. In general, professional orientation after the educational process may significantly affect the successful career of students [Staff et al., 2010]. The combination of career and educational expectations could predict enrollment in elite universities (which commonly are highly selective), a higher probability to get a well-paid job and to be hired [Sabates et al., 2011]. So, the link between career and educational expectations is also supported by the fact that opportunities in the labour market differentiate based on the difference in quality of the higher education [Prakhov, Bocharova, 2018]. Educational mobility could determine students' further career achievements [Prakhov, Kotomina, Sazhina, 2020]. There is a fact that "returns" of higher education in salary equivalent are higher for graduates from elite universities compared to non-selective higher education institutions [Solmon, Wachtel, 1975; Monks, 2000; Chevalier, Conlon, 2003]. Consequently, in this case, the person moves to another place to be enrolled in a university, gain a degree and built a future career in the location of study or move to another one (or back to hometown). Thus, students tend to take part in interregional national mobility following the desire to relocate to more developed regional educational markets and richer regions [Prakhov, Bocharova, 2018]. Therefore, the motivation for choosing educational mobility strategy is to improve the quality of education, as well as limited employment prospects and demand in the labour market, which

may be realized in obtaining high incomes. And what is more important in terms of the current research is that educational migration strategy may be concerned as an intermediate step towards "full" labour mobility. For instance, if the individual would be highly satisfied with the quality of life in the place of education, the probability of the relocation for work would be low and, vice versa, if the subjectively perceived quality of life in the place of education would be low, the probability of relocation increases.

One study identifies the most appealing regions and their advantages as factors of youth migration in their article. They discuss the theory that the direction of youth labour migration is closely linked to educational migration. Students who plan to establish their careers in another region of the country after completing their higher education usually aim to enroll in a higher education institution within that same region. The authors connect the decision of choosing a migration region for employment to the decision of determining their educational path. This is also linked to the desire of young people to minimize the expenses associated with migration, such as adapting to a new region, finding new social connections, and incurring financial costs for relocation, among others. Consequently, the authors consider the presence of highly ranked higher education institutions as one of the prerequisites for choosing a migration region, which could offer superior education quality from the young people's perspective or hold more significance while searching for employment [Kashnitsky, Mkrtchyan, & Leshukov, 2016].

Another possible strategy of labour migration among juniors represents a direct decision on relocation due to job opportunities. This strategy might be independent and deliberate or, at the same time, could be the consequence of the impossibility of educational mobility strategy implementation. In this case, there are different motivations for choosing such a life path, which would be concerned further.

1.1 The context of labour mobility in Russia: region's monocentricity

Moscow, St. Petersburg, Samara, Yekaterinburg, Rostov-on-Don, and other economically developed regions are leading in attracting young people who seek opportunities to not only obtain an education but also to build a successful career. Young people's choice of a region for migration is closely related to their educational trajectory, which, in turn, influences their preference for a place of work. The authors suggest that the presence of highly-rated higher educational institutions is the primary factor that influences young people's interregional migration [Kashnitsky, Mkrtchyan, & Leshukov, 2016].

Quite often, the second wave of migration occurs in life trajectory of young people after graduation (the first wave of migration is moving for education), which consists in moving to another country or region for work. Of course, some graduates remain in the regions where they received higher education. Due to the discrepancies between the labour market and the education

market, in Russia, a significant proportion of students who have graduated from universities move to other regions for more attractive jobs. Such an outflow of young professionals has a negative impact not only on the economic and labour potential of the region but also on the age composition of the population, accelerating the ageing process [Mkrtchyan, 2014].

The outflow of talented young people – graduates of highly selective universities, who have a higher level of education and have the necessary competencies to enter the labour market, has an extremely negative impact on the well-being of the region and the country as a whole. The outflow of talented youth from the region slows down the process of its economic development and also reduces the innovative potential of the region. It is worth noting that the presence of highly selective universities in the region does not guarantee that students will remain working in this region after graduation. In Russia, from the point of view of youth migration, regions are divided into a group of "donor regions" in which young people receive higher education and then migrate to the group of "host regions" for the sake of better work [Yushkov et al., 2017]. If we talk about interregional migration, the points of attraction of young people are clearly expressed in Russia: most of them move to the largest centers – to Moscow or St. Petersburg, as well as to regional capitals [Mkrtchyan, 2017]. It can be assumed that these cities are seen by young people as the most attractive both from the point of view of socio-economic factors (quality of the health system, transport, housing conditions, the level of cultural development, etc.) and from the point of view of career opportunities and decent wages. Thus, it can be concluded that at the moment the problem of the monocentric of individual regions is relevant for Russia.

Thus, it can be concluded that monocentric can lead to several serious problems for the economy of the regions. For the sustainable development of individual regions and the country as a whole, effective distribution of labour resources is required. Therefore, an important task of the state is to increase the attractiveness of regions where there is a large outflow of university graduates.

1.2 The outcomes of labour migration on regional and country levels

In Russia, young people have the highest migration activity compared to other age groups [Karachurina, Mkrtchyan, 2016]. Labour migration is usually referred to as a type of temporary migration. However, it was determined that this type of migration subsequently becomes one of the main channels for the departure of Russian youth for permanent residence [Baykov, 2018].

A large outflow of young people, in particular talented youth, leads to the loss of human capital – the problem of “brain drain” [Baruch Y, Budhwar, Khatri, 2007]. At the regional level, this leads to a slowdown in its economic development, an increase in interregional socio-economic differentiation and a strengthening of the positions of “centres of attraction” [Faggian,

Rajbhandari, Dotzel, 2017]. In addition, the loss of qualified personnel leads to a decrease in the innovation and investment potential of the regions [Eldyaeva, Kovanova, 2013]. In addition, the region allocates certain funds for the training of migrant workers, which as a result become irrevocable, since highly qualified personnel invest labour efforts in the development of another region [Eldyaeva, Kovanova, 2018]. In the long term, such a trend can significantly affect the development of regional markets, create problems for the economic and labour potential of the region and, as a result, provoke an even greater outflow of population from them. If we talk about demographic consequences at the regional level, internal migration leads to strong shifts in the placement of the population, which leads to the deformation of the settlement structure [Knyazeva, 2018]. In addition, it has been proven that the outflow of young people has an impact on the level of corruption in the region. The lack of competent specialists leads to the problem of the irremovability of officials, resulting in the consolidation of corruption in the country [Pipia, Chistyakova, 2020]. It is important to note that due to the high level of migration of university graduates, investments in education lose their effectiveness since they become irrevocable at the regional level [Hanushek, 1996]. Thus, the migration of the population, in particular young people, has a significant impact on the well-being of the region. We can say that those regions that will be able to maintain a working population and attract highly qualified labour will develop steadily.

At the macro level, in the long term, the constant loss of human capital can lead to economic stagnation [Dolmatova, 2013]. A large outflow of young specialists will negatively affect the economic development of Russia since its competitiveness at the global level is determined by the speed of introduction of scientific and technological progress into production, which is commonly associated with talented youth [Pruel et al., 2020]. Emigration from Russia of young people who have graduated from universities has a negative impact on the development of science in the country – Russia is losing its scientific potential [Ryazantsev, 2005]. In addition, a large outflow of young professionals leads not only to a slowdown in economic development but also to a decrease in demographic potential. Significant demographic losses lead to a decrease in the population and reproductive potential of the country, as well as to the ageing of the population [Badgers, Chekmareva, 2017]. All this suggests that competition for able-bodied youth is becoming one of the main factors in the development of the country.

Due to the high level of youth labour migration, an important task for both the state and individual regions is the creation and implementation of measures aimed at reducing the mass outflow of young people. State structures should realize that the level of labour migration of young people can be reduced not through the methods of prohibitions, but through improving the quality of life and socio-economic conditions for young people to work in the country. By

increasing the value of education by growth in wages for qualified specialists and providing conditions for professional growth for university graduates, the state will be able not only to reduce the level of labour migration of young people but also to attract back those who left Russia earlier.

1.3The process of mobility among juniors

There are retention factors and push factors that influence the individuals' decision to move or stay in the location. The repulsive factor can be defined as driving forces inside the current location compelling people to leave the place for another one, while restraint factors are those which could reflect peculiarities of the "new" place, which attract a person to move there [Giddens, 2001].

Assessing the trends of labour migration in Russia, sociologists have concluded that educated and highly qualified specialists are leaving the country, for whose training "huge capital was spent" [Yadov, 1998, p. 447]. The main participants in labour migration are young people who migrate through education with subsequent employment in the region of study [Florinskaya et al., 2014; Mkrtchyan, 2013]. After the collapse of the USSR, not only external migration increased but also internal. The labour potential of some regions of Russia was declining, the skilled population moved to other parts of the country [Yadov, 1998]. As a result of interregional and intraregional migration, the population and labour force are redistributed [Florinskaya et al., 2014]. One of the incentives for intra-country migration is interregional inequality and quality of life in the region [Yadov, 1998], as well as a shortage of jobs and low wages [Florinskaya et al., 2014]. Accordingly, one of the negative consequences as a result of the development of migration processes is a decrease in the labour potential of the region in the form of highly qualified specialists [Potudanskaya et al., 2018]. Thus, regions experiencing demographic decline need to attract people from other regions or retain current residents for economic development. In particular, such regions are interested in young specialists who are the most active group of the population in the issue of migration [Mkrtchyan, 2013].

Households adjust their location in response to their changing needs and preferences, which is referred to as migration. This adjustment is considered one of the ways in which a household can improve its life chances from a human capital perspective [Sjaastad in 1962]. The household assesses the present value of location-specific benefits and the costs of relocation before deciding whether to stay or move. In addition, neoclassical theories of regional growth suggest that households migrate due to differences in wage rates, although the gap between nominal and real wages can vary considerably based on the geography of amenities.

The migration rate of people with higher education is always higher than that of less educated compatriots, regardless of the country [Dao et al., 2018]. Labour migration of highly

qualified specialists has favourable consequences both for the subject of arrival due to the attraction of high-quality human capital [Kerr et al., 2017] and for the migrating individual himself [Moiseenko, Chudinovskikh, 2000]. Therefore, migration itself can be considered an investment that increases the productivity of human resources [Sjaastad, 1962].

Those people who have a greater incentive to invest in human capital now since they can enjoy the benefits over an extended period [Becker, 1993]. As a result, individuals have become more rational about when and where to invest in deepening their skills or furthering their education. Moreover, there is a significant value of preferences and housing needs for individuals in their life-cycle stages [Rossi, 1955]. Although it is well-known that highly educated people are a highly mobile group, reports that individuals with at least a bachelor's degree make up only 27 % of the population but account for 37 % of all migrants [Basker, 2002]. In addition, the highly educated have distinct migration patterns. The college-educated population is more likely to engage in long-distance moves, with 30 per cent of graduates no longer residing in the state where they attended college, and an even greater percentage no longer living in the state where they completed high school [Kodrzycki, 2001]. Human capital propels regional economic growth, and many argue that amenities play a prominent role in attracting the college-educated workforce [Florida, 2000; Glaeser, Kolko, and Saiz, 2000]. PhD graduates are especially responsive to amenities when deciding where to live [Gottlieb, Joseph, 2006]. For the college-educated workforce, the decision about where to live and enjoy life can play as significant a role as the job offer itself in the final location decision [Clark, Lloyd, and Jain, 2002]. Also, the research indicates that the college-educated are less likely to move downward within the urban hierarchy than those with lower levels of educational attainment. Additionally, there is evidence that the highly educated population itself becomes an amenity that attracts other well-educated migrants [Wilkinson, 2007].

Even though representatives of the younger population are more likely to migrate, and the economic reasons for migration are the most significant, young people are not ready to move far from their own homes even for higher wages [Sprung-Keyser, Hendren, Porter, 2022]. Regarding Russia, university graduates consider internal migration rather than external. It is also worth noting that the number of graduates who somehow plan to move related to their careers is small [Varshavskaya, Chudinovskikh, 2014]. It has been found that 29% of young professionals expressed a desire to relocate from their place of residence on a permanent basis [FPO, 2014]. A probable factor driving this aspiration could be attributed to the absence of a well-established job market, as indicated by 22% of the youth who identified employment-related challenges hindering their personal growth [FPO, 2016], as reported by FPO in 2016. In other words, for every fifth young specialist, economic needs cannot be met by the region of origin.

Thus, graduates of schools and universities tend to migrate, causing certain demographic consequences for the region of departure. However, the labour migration of skilled workers has a positive impact both on the individual himself and on the place of residence in the context of human capital. Despite the economic attractiveness of a possible place of residence, only a few are ready to leave far from home.

1.4The role of the field of study in the process of labour mobility

Research shows that graduates of certain specialties are more inclined to participate in labour migration, both international and domestic. For example, a study conducted by the European Commission found that graduates of economics-related fields, such as finance and business administration, are more likely to have work experience abroad than graduates of other fields [European Commission, 2018]. Similarly, graduates of information technology-related fields are more likely to have international and regional work experience [ILO, 2017]. Overall, studies suggest that majors related to economics and information technology may be more prone to labour migration than other majors. However, it should be noted that these trends may vary depending on the specific country and region.

In the context of Russia, there are also majors whose graduates are more likely to participate in labour migration. For example, a study conducted by the National Research University "Higher School of Economics" [2019] showed that graduates of economics-related fields, such as economics, management, marketing, and finance, are more likely to have work experience abroad than in other fields. Additionally, graduates of information technology-related fields may be inclined towards labour migration, especially if they have professional skills in software development and technical support [Institute of Sociology of the Russian Academy of Sciences, 2016]. Nevertheless, there are majors whose graduates are less inclined towards labour migration. For example, a study conducted by Rosstat in 2020 showed that graduates of medical specialities and education-related fields, including teachers and educators, have lower levels of labour market mobility [Rosstat, 2020].

These notions regarding which fields of study are more likely to lead to labour mobility may be relevant in terms of the quality of life concept. For instance, if a region has a shortage of skilled workers in a certain field, then attracting those workers through policies that improve their quality of life may be beneficial for the region's economy and social development. Moreover, skilled workers who are more likely to participate in labour migration may also have certain expectations and preferences for their quality of life, such as access to job opportunities, a competitive salary, work-life balance, affordable housing, and a safe and diverse community. Therefore, policymakers and employers in those regions may need to take these factors into consideration when designing policies and programs to attract and retain skilled workers,

especially in fields such as economics and information technology. However, for fields of study that are less likely to lead to labour migration, such as medicine and education, policies and programs that improve the quality of life for workers may be more focused on enhancing the work environment, such as providing sufficient resources and support for healthcare professionals and educators, and promoting work-life balance. Overall, understanding which fields of study are more likely to lead to labour migration can be helpful in identifying the factors that contribute to the quality of life of skilled workers in different regions, and designing effective policies and programs to attract and retain those workers.

1.5 The reasons and causes for migration

Generally speaking, there are 3 common main types of migration reasons: economic, social, and political. Most frequently people desire to seek a better quality of life and opportunities to earn money [Kanayo, Anjofui, & Stiegler, 2019]. Consequently, policymakers should pay attention to developing the places with high migration outflows, concerning not only economic aspects but also changes in the current state of other spheres to make the place more conducive for living [De Haas, et al., 2019]. Amenities refer to location-specific goods and services that can increase or decrease the attractiveness of a particular area to individuals or organizations. These amenities play a critical role in the decision-making processes of households and firms, influencing their location choices. While natural amenities were originally the focus of research, man-made amenities and disseminates have become increasingly important for public policy considerations [Whisler, Waldorf, Mulligan, Plane, 2008]. The location-specific amenities affect both the labour and land markets, resulting in representative households being indifferent between living in attractive, low-wage, high-rent areas or unattractive, high-wage, low-rent areas [Whisler, et al. 2008]. Compensation for amenities seems to work at both inter- and intra-regional levels [Bloomquist, Berger, Hoehn, 1988].

Young, well-educated households seek specific urban environments to satisfy their lifestyle demands and enhance their life opportunities. These environments offer a variety of consumer goods and services, diverse entertainment and recreational options, dense networks of educational, employment, and social opportunities, and tolerant racial and social attitudes [Glaeser, 1999; Costa, Kahn, 2000; Florida, 2002].

Migration is often seen as an opportunity to escape a weak labour market and achieve better economic conditions [Wilson, 2021]. Both seasonal workers and low-skilled and highly qualified specialists can participate in labour migration [Wolff, 2021]. However, according to Ravenstein, the movements are not chaotic, but rather definite. Thus, there are "Laws of Migration" [Ravenstein, 1885]:

1. There is a redistribution of the population between territories;

2. Territories differ mainly in economic characteristics;
3. Most migrants move for short distances;
4. Migration takes place in stages;
5. Each migration flow corresponds to a return flow;
6. Long-distance migrants migrate to large centers of industry and trade;
7. Urban residents are less mobile than rural residents;
8. Women are more mobile than men in moving within the country, and men are more mobile than women in moving over long distances;
9. Cities are growing mainly due to migration;
10. The volume of migration increases with the development of industry, trade and transport;
11. The main reasons for migration are better economic conditions.

These laws reflect the basic characteristics of migration processes but do not describe the true causes and factors of migration [Abylkalikov, Vinnik, 2012]. Thus, it is customary in the literature to distinguish subjective or personal and objective reasons for migration. Objective reasons are related to territorial differences in living conditions that are significant for a person, for example, natural/natural or social/social. It is worth referring to the econometric model of E. Lee [Lee, 1966], which considers the attracting and pushing factors of migration. According to this concept, in each territory, there are factors affecting the spatial movements of migration: holding, attracting and pushing. The pushing factors of migration are poverty, low earnings, unemployment, high taxes, housing problems, discrimination, and low mobility. The deterring factors of migration include family and friendships, familiar surroundings, social status, work, property, and certainty. The attractive factors of migration are salary, work, education, political and economic freedoms, law and order, low taxes, high mobility, and family. So, positive factors of mobility are connected to the quality of life since they contain the same aspects and personal perception of an individual's satisfaction with them.

Accordingly, migration can be considered as a result of the influence of pushing factors from the place of departure and attracting in the place of arrival for the individual. In other words, resettlement is possible provided that negative conditions of stay prevail over positive ones (determining the individual's intention not to migrate). The decision on migration and the direction of migration flows can be predetermined by an equal ratio of positive and negative conditions [Moiseenko, Chudinovskikh, 2000].

In addition to the above, intermediate factors play a special role, which are the costs of movement, which include, for example, transportation costs, temporary losses, housing

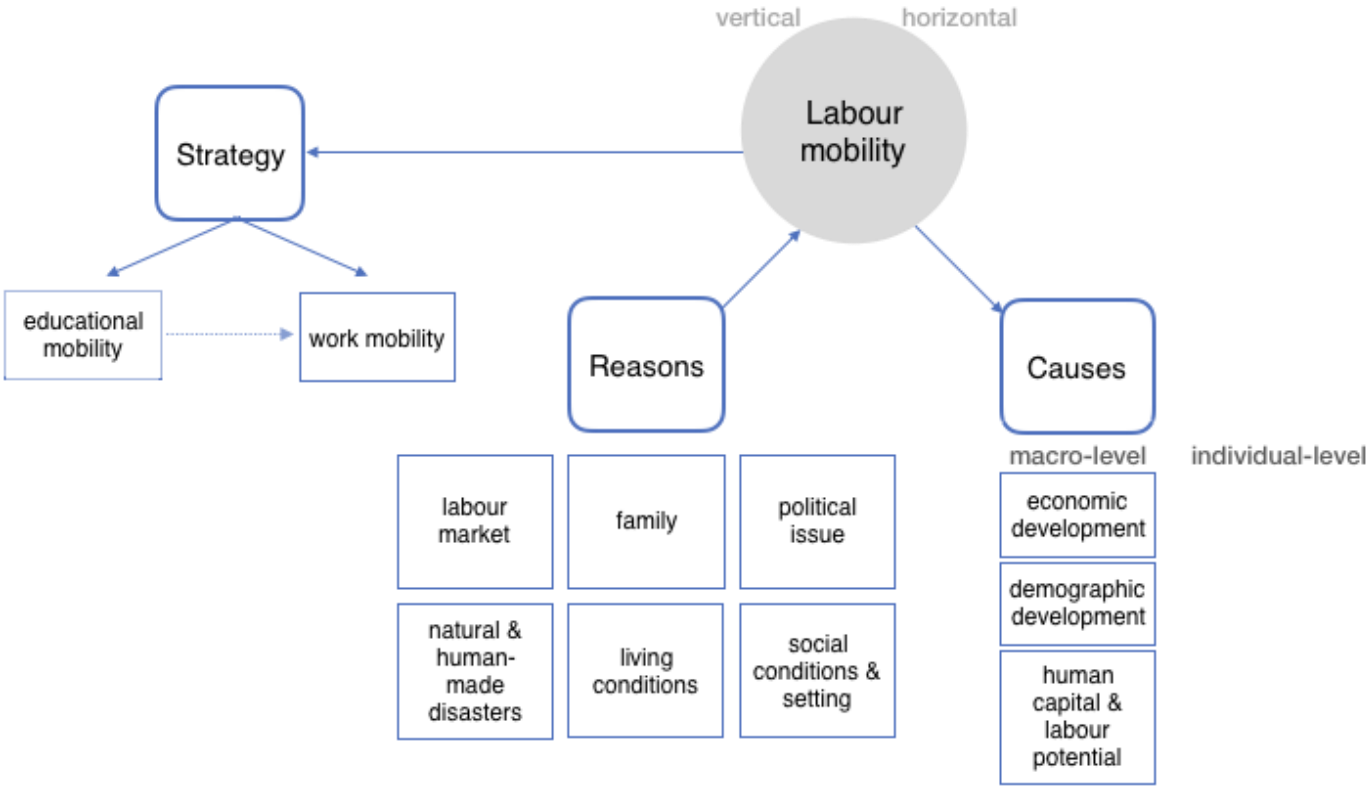
arrangements, income, and the breakdown of social ties [Lee, 1966]. It is these groups of factors that influence the migration decision.

Thus, migration can be considered as a comparison of the factors of the place of arrival and departure by a specific individual. In addition, it is necessary to take into account the subjective factors and needs of the migrant [Rybakovsky, 2003]. Since when comparing factors, a person builds their priority for deciding between migration, based on their ideas, needs and value orientations. In addition, people face costs during a migration. Therefore, all these components should be considered when studying migration factors, and these factors should be considered as the whole quality of life concept.

Accordingly, the classification of the causes of migration, in general, can be presented as follows [Moiseenko, 2004]:

1. Work acts as the main cause;
2. The need for social, economic and professional mobility (differences in wages, professional and educational opportunities between regions and lifestyles);
3. Creation, modification or destruction of a family;
4. Housing conditions (inheritance, purchase of real estate, low rent);
5. Improving living conditions: climate, economic potential, transport, ecology);
6. Natural and man-made disasters in the region;
7. Political upheavals, wars, and human rights violations.

When studying migration, it is also worth considering one of the subjective factors – the life stage at which the individual is located. Thus, school leavers are more likely to migrate due to the continuing attitude towards changing their place of residence when choosing a university [Galanina, 2018] and those who enter the labour market (leave their parent's home if they have not yet migrated at the time of university admission) [Abylkalikov, Vinnik, 2012]. Due to the so-called second peak of migration mobility (migration of university graduates), the effect of “extinction” in the drop-out region increases, because Migration has demographic consequences, including the gender and age structure of the population [Gabdrakhmanov, Nikiforova, Leshukov, 2019].



Pic. 1. The conceptual schema of labour mobility

2. Subjectively perceived quality of life and mobility process

2.1. The quality of life concept

Despite the spread-use of the term, there is no universal definition for "quality of life". This concept is usually comprehended with others: "happiness", "life satisfaction" and "well-being" [Kerce, 1992; Andrews & McKennell, 1980]. The concept of "quality of life" is one of the central topics in the measurements of the population by social researchers due to heightened interest from governments to develop the state. Nowadays enhancing the quality of life for the population is a significant priority of public policy in developed countries, along with the goal of achieving sustainable economic development. This priority involves promoting the well-being of the population and creating favourable conditions for their daily lives and activities [Shedko, 2013].

That is why worldwide social surveys such as World Values Survey, Gallup World Poll and others add measuring instruments in the pools [Almakaeva, Gashenina, 2020]. United Nations Organization provides one of the first attempts to measure the quality of life. UN's instrument assesses 12 groups of indicators, which are: demographic characteristics, sanitary and hygienic conditions, food consumption, housing and durable goods, education and culture, employment and working conditions, income and expenses of the population, cost of living and consumer prices, transport, organization of leisure and recreation, social welfare/security, human freedom [Feoktistov, 2002]. There are some more indexes, ratings and life quality

measurements, which have somehow modified the UN's approach (for instance, WHOQOL, OCED, HDI, and Eurostat).

Quality of life is a complex and multidimensional concept, concerning various aspects of life, including subjectively perceived ones, which complicate the measure of itself in many ways. However, the implementation of this category provides the researcher opportunity to estimate the tendencies in social well-being on the country level. The estimation of life quality is conducted by the comparison between the subjective (or self-) estimations of the level of satisfaction with particular aspects of life and the degree of the importance of these aspects in such a way that the level of satisfaction with a certain side of life is weighted by an appropriate coefficient of importance [Rossoshanskii, 2019]. Thus, quality of life could be concerned an indicator of the state's development level including all spheres of life, not only the economic part. And what is more, the measure may help to assess both the social factors and economic ones. By itself, the level of life quality has significant implications for policymakers and employers.

The quality of life metric provides a comprehensive evaluation of the socio-economic development of a society, state, or region. This is because the indicator encompasses a broad range of factors that affect various aspects of human life, and its measurement is multidimensional, incorporating both objective (statistical) data and subjective assessments. Moreover, the quality of life indicator is dynamic and adaptable, not limited to a fixed set of criteria. As the economy and society progress, the definition of "quality of life" evolves, leading to the inclusion of new indicators. [Pankratova, 2009; Kudryavtseva, 2012].

Since, as it is mentioned before, life quality is a multidimensional concept, there are two distinguished approaches of measurement: objective and subjective [Felce and Perry, 1995; Schalock, 2000; Walker and Mollenkopf, 2007; Lawton, 1991]. Within the objective approach, the measure of the quality of life is considered to be such resources available to a person as income, health status, marital status, and other objective life aspects, whereas, within the subjective approach, the criterion for assessing the quality of life is a person's perception of their life experience and other subjective life's aspect [Rossoshanskii, 2019]. To sum up, the first is based on unbiased indicators or indexes, while the second one is based on perceived individuals' assessments.

The objective assessment of the quality of life is based on official statistics and can be classified for comparison at different levels (group, regional, inter-country) [Almakaeva, 2006]. For example, in the context of Russia, there is an RIA rating of regions on quality of life (an objective assessment). It is based on official statistics from Rosstat, the Ministry of Health, the Ministry of Finance, the Central Bank and other open sources. The index is based on an assessment of 67 indicators that record the actual state of certain aspects of living conditions and

situations in the socio-economic sphere and includes 11 groups that characterize the main aspects of quality of life in the region: the level of income of the population, employment and labour market, housing conditions of the population, living security, demographic situation, environmental and climatic conditions, population health and education level, provision of social infrastructure facilities, level of economic development, level of small business development, development of the territory and development of transport infrastructure [RIA, 2023].

Despite the opportunity to evaluate the quality of life with an objective approach, still there are some cons of ignoring individuals' perceptions. As it has been mentioned before, there is a subjective way to measure the quality of life, helping to avoid the problem of low assessment of the characteristic on the individual level, which has been highly evaluated by official statistics [Almakaeva, 2006]. In this paper, the main focus is devoted to the subjective approach. The main idea of the chosen perspective is that researchers estimate quality of life on the results of sociological surveys through public opinions about their lives, due to their level of individual development, life experience, emotional state, etc. [Cummins, 2000]. Moreover, it is pretty common and widespread in socio-economic research due to the fact that most of the economic and social aspects are measured by public opinion through questionnaires. Therefore, subjectively perceived public (and individual) opinion allows monitoring changes in quality of life through the periods, and some of them could be also compared at the territory level [Rossoshanskii, 2019]. Therefore, the subjective measurement of quality of life refers to the perception of individuals about their life circumstances and how satisfied they are with their life overall.

2.2. The relation between the subjectively perceived quality of life and the mobility process

The subjective quality of life in terms of relocation could be concerned with the subjectively perceived capacity of the places in which migrate to and from. In other words, the measure of the subjective quality of life may be considered as one of the essential and significant factors of labour mobility.

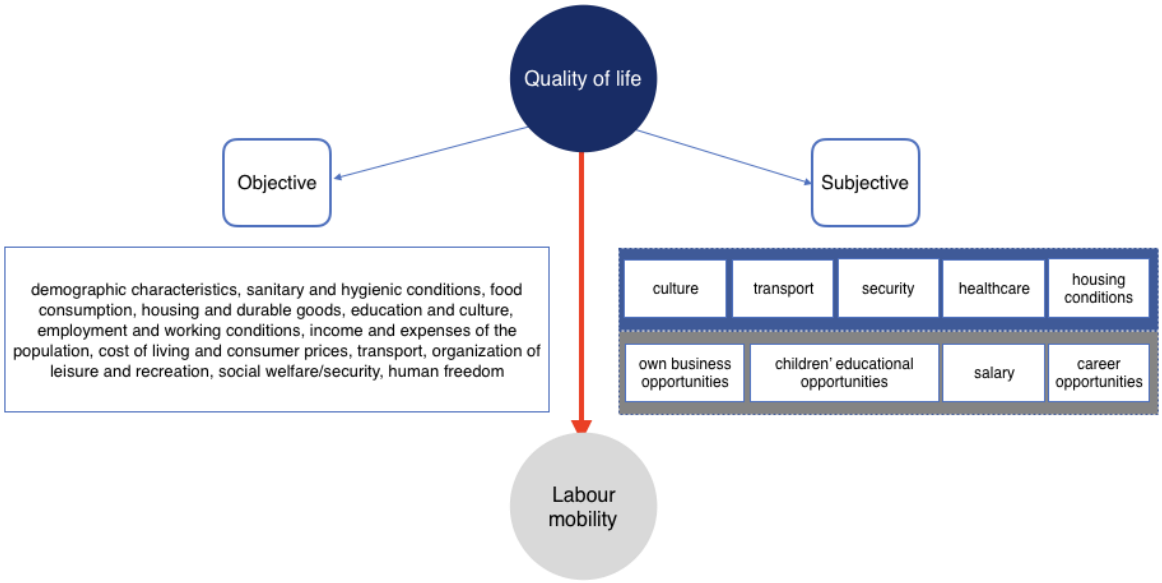
In the literature, the association between the decision to relocate to another place and the subjectively perceived capacity of the place to live is described as that the low level of subjective quality of life could lead to the decision to change jobs or move to a different location. In other words, those who report a low level of life satisfaction in their current place of living are more likely to move to another city or even leave the country in search of better employment opportunities [Martinho, 2020; Zakharova, 2019, Akay et al., 2013; Jaupart&Sarracanie, 2019]. Regarding the Russian experience, the relationship between subjectively perceived quality of life and the mobility process is interpreted as: individuals who are satisfied with their life in their

current place of living are less likely to relocate for a job, while those who are less satisfied with their life in the current place of living are more likely to do so. In this way, the subjectively perceived capacity of the living place plays a crucial role in the decision-making process when it comes to labour mobility [Kholodilin &Mense, 2018; Bekhet &Zauszniewski, 2012] and, thus, a higher level of quality of life could reduce the propensity of job relocation [Prokopenko&Orel, 2019].

Moreover, the impact of regional factors or places' capacities may affect the decision to move, because people tend to search for better job opportunities, higher wages, and an overall better quality of life in another location (Leshukov et al., 2020; Martinho, 2020; Rodriguez-Planas, 2012]. However, studies have also shown that a higher level of quality of life can lead to a reduced propensity for labour mobility: higher levels of quality of life are associated with lower odds of job relocation. The study concluded that those who are satisfied with their life circumstances are less likely to be willing to relocate for work [Dalla Pozza et al., 2018].

Therefore, a lower level of quality of life or subjectively perceived capacity of the current living places can motivate individuals to seek out better job opportunities, higher wages, and an overall better quality of life in another location. However, a higher level of quality of life or subjectively perceived capacity of the current living places can reduce the propensity of job relocation.

That is why policymakers and employers should take into account the impact of quality of life on labour mobility g the decision-making process making which may affect employees' well-being and satisfaction. To reduce the rate of labour mobility, policymakers should consider implementing measures to improve the quality of life of individuals in regions where labour mobility is high. For instance, investing in infrastructure, creating job opportunities, and providing affordable housing could improve the quality of life of individuals and reduce their desire to relocate. Employers could also consider providing a better work-life balance, opportunities for career advancement, and a positive work environment, which could improve job satisfaction and reduce the propensity among employees looking for job opportunities in other locations.



Pic. 2. The conceptual schema of quality of life in the context of labour mobility

3. Key findings

The outflow of young people in Russia is a significant issue for the country's sustainable development due to the importance of the effective distribution of labour resources. Moscow, St. Petersburg, and other economically developed regions are leading in attracting young people who seek opportunities to not only obtain an education but also to build a successful career. In the long term, such a trend can significantly affect the development of regional markets, create problems for the economic and labour potential of the region and, as a result, impact the country's economic development.

Quality of life is a complex and multidimensional concept that encompasses various aspects of life, including subjectively perceived ones, which complicates its measure in many ways. The quality of life metric provides a comprehensive evaluation of the socio-economic development of a society, state, or region. Within the subjectively perceived quality of life, the criterion for assessing the quality of life is a person's perception of their life experience and other subjective life aspects. The main idea of the chosen perspective is that researchers estimate quality of life based on the results of sociological surveys through public opinions about their lives, due to their level of individual development, life experience, emotional state, etc.

The concept of quality of life more or less directly leads to labour mobility. Since the decision on relocation is usually built on the comparison of the satisfaction of different aspects of life in the place of current stay and desirable place of stay. The level of quality of life may determine the desire to leave the place or to stay there. The higher level of quality of life or subjectively perceived capacity of the current living places can reduce the propensity of job relocation.

Graduates of certain fields, such as economics and information technology, are more likely to participate in labour migration both internationally and domestically, while fields that

are less likely to lead to labour migration there are medicine, education and social work. This trend holds in Russia as well, where graduates of economics-related fields and information technology fields are more likely to have work experience abroad.

Data and Methods

The aim of the study is to investigate quality of life as the factor causing labour migration among young professionals in Russia from different degree background. Hence, the research question may be raised as: "*How does the level of subjective quality of life in the place of studying determine the labour migration among Russian graduates from different fields of study?*". In order to achieve the goal of the research the following hypothesizes are set basing on the previous studies:

- The decision to relocate for work is influenced by the assessment of various aspects of quality of life, and the satisfaction or dissatisfaction with these aspects plays a crucial role in determining labour migration [Sjaastad, 1962; Lee, 1966; Moiseenko, Chudinovskikh, 2000; Whisler, Waldorf, Mulligan, Plane, 2008; Rossoshanskii, 2019; Wilson, 2021]. Consequently, the higher estimates of quality of life in the locality of study decrease the likelihood of migration in another locality for work;
- Economic components of life quality, such as salary level by profession, career opportunities, and entrepreneurial activity, exert a greater influence on the decision to relocate than social components, such as healthcare, transport, and living security. This is because one of the main drivers of migration is the economic characteristics of a region and an individual's assessment of their prospects for career development and social capital [Ravenstein, 1885; Moiseenko, 2004; Whisler, Waldorf, Mulligan, Plane, 2008; Wilson, 2021];
- Additionally, graduates from economic backgrounds are more likely to relocate for work due to their diverse skill sets, which allow for greater mobility in career and job seeking [European Commission, 2018; HSE, 2019]. Therefore, the average scores for quality of life index and its components in the place of study are lower among other specializations graduates.

In order to achieve the research goal, the quantitative design would be implemented, based on the database of the panel study "Trajectories in Education and Careers" (9th wave, 2020). The sample of the study is graduates (who are able to work, including those who are working and on parental leave, unpaid or paid leave). The choice of data could be explained as we can consider the data on the place of study and compare with data on the place of the residence. Moreover, according to the case selection of panel study, we could easily filter and achieve those young people, who have already finished university and started career path, which means that these people has already made choice on migration because of work. The characteristics of the places of study and residence are considered as external factors, and

gender, education of parents, and household income are considered as internal (individual) factors.

To achieve the purpose of the study, a descriptive analysis of the variables under consideration, and an analysis of the average estimates of the significance of external factors on labour migration among young professionals were carried out. However, the main statistical applied method is the model of binary choice. With its help, the probability of migration of a young specialist is estimated with the existing satisfaction with a specific characteristic of the region.

The *novelty* of our study could be considered as comparison approach based on the different fields of graduates' studies. Moreover, the uniqueness of our study may be concerned as a contribution to study quality of life as the factors influencing on the decision on migration among junior specialists. However, the study consists of explanatory analysis and could be developed on another data with regional and country level in order to generalize results and provide recommendations precisely. The method of binary choice model could be implemented for further research. Its application makes a huge contribution to the topic of study, because it helps to clarify particular determinants, in other words, factors and characteristics of regions, which could affect the decision on migration. Also, the main contribution is the pragmatic recommendations on governmental level to stimulate or decrease (depending on the status of the region) the migration flows of talented junior specialists and high-quality human capital in particular regions.

The main *limitation* is that we cannot generalize our results on regional level because of provided data. Thus, we conduct the analysis on individual level. Also, in our research we use open database, which is controlled by HSE Center for Fundamental Research. That why we could assume that data has been collected according to research standards.

Operationalization of variables

In order to reach the aim of the study we would apply the method of the logistic regression which has particular assumptions and requirements for target variable and predictors. In a case selection, we would consider respondents who already have work experience, including those who are working and on parental leave, unpaid or paid leave graduated from Economics or STEM, or Humanitarian and Social science, or Medicine, or Natural science.

The depend variable of the research is the fact of relocation from one locality to another one (the migration has been already occurred). It is a binary variable measuring with the question: "Do you now live in the same locality where you graduated from a university (college/technical school), or in another?". Basing on the answers we distinguish "mobile" (28%) and "non-mobile" (72%) groups of graduates.

Table 1. The distribution of dependent variable

Live in the same locality	Live in another locality	NA	Total
1094	423	164	1681

Table 2. The distribution of dependent variable (%)

Live in the same locality	Live in another locality
72	28

The concept of quality of life plays the role of the independent variable. In the case of study, it would be considered as the constructed index, based on the average scores and separately indicators of the life of quality concept. This decision may help to measure the whole effect of the general quality of life on the relocation and the effect of particular aspects of life which are able to be possible factors of labour mobility. The characteristics of life of quality include *healthcare* (the quality of medical care in polyclinics/hospitals), *transport* (the level of development of transport infrastructure and convenience of public transport), *culture* (the possibility of visiting theatres, cinemas, museums, exhibitions, libraries; provision of social infrastructure facilities), *housing and communal services* (the level of communal services of apartments and houses), *security* (crime rate, quality of police work), *career development opportunities*, *salary level in my profession*, *opportunities for education and development of children*, *opportunities to create your own business, entrepreneurship*. These characteristics were measured using a 5-point scale, where 1 – absolutely not satisfied (-a), 5 – absolutely satisfied (-a). The question of satisfaction with affairs and opportunities in the region of residence is asked to all respondents: mobile and non-mobile.

The quality life index is built on the average estimates over all 9 indicators for the place of study without splitting for “mobile” and “non-mobile” groups. According to alpha-Cronbach the quality of life index is consistent (0,905 standard alpha coefficients) and we could use it for further analysis. Considering the built general index, based on average estimates of life quality characteristics, the average estimate of the life quality in the place of study is equal to 3.444 out of 5.

Table 3. Descriptive statistics on quality of life index in the place of current residence

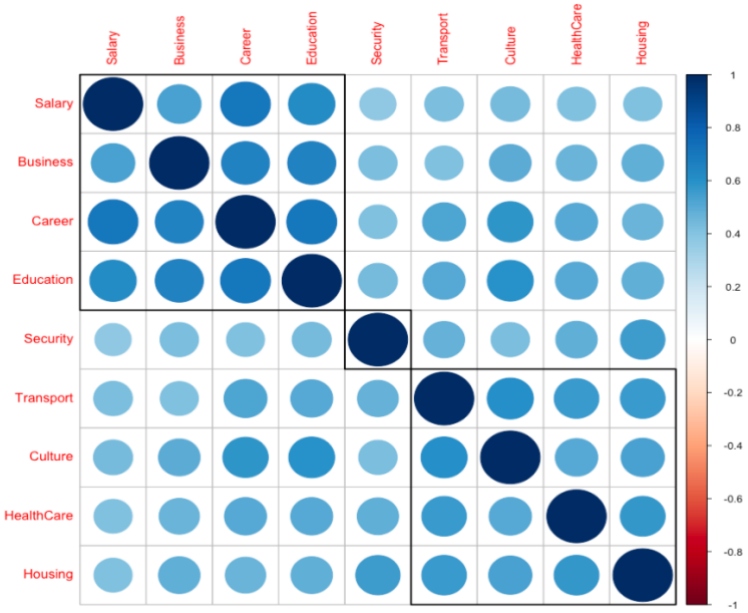
	Min	1st Q.	Median	Mean	3d Q.	Max	NA’s
General index	1	2.78	3.44	3.43	4.11	5	164
Index for mobile group	1	3	3.78	3.63	4.33	5	164
Index for non-mobile group	1	2.78	3.44	3.35	4	5	164

The descriptive statistics of the life quality aspects separately is represented in the table 4. On average graduates are satisfied with the aspects of life in the locality of current residence from 3 to 3.7 out of 5 points.

Table 4. Descriptive statistics on independent variables

Variable	Number of cases	Mean	Standard deviation
Satisfaction with socio-economic indicators in the locality of study			
Healthcare	1681	3.29	1.12
Transport (level of development of transport infrastructure and convenience of public transport)	1681	3.6	1.15
Culture (possibility of visiting theaters, museums, exhibitions, libraries; provision of social infrastructure facilities)	1681	3.73	1.22
Housing conditions (level of communal services of apartments and houses)	1681	3.07	1.19
Living security (crime rate, quality of police work)	1681	3.35	1.13
Salary level by profession	1681	3.3	1.2
Estimates of opportunities and prospects in the locality of study			
Career opportunities	1681	3.49	1.22
Opportunities for education and development of children	1681	3.67	1.14
Opportunities for organizing your own business, entrepreneurial activity	1681	3.29	1.19

It is also crucial to check the correlation between indicators of quality of life concepts due to possible issues in further data analysis. According to correlation matrix, there are strong positive correlations between culture and transport (0.6), career and business (0.65), education and culture (0.6), career and salary level by profession (0.7), education and career (0.71). Such results may lead to multicollinearity problem in regression models, thus, we have to control it.



Pic. 3. Correlation matrix on indicators of quality of life concept in the place of residence

Also, one of the important independent variable in the context of the current research is the field of study. In order to make categories of degrees more filled we coded open-ended question about degrees into 5 categories: “Economic Science” (475), “STEM” (542), “Social and Human Science” (380), “Computer Science” (189), “Medicine and Veterinary” (134), “Natural science” (160). In Tab 4 there is a share of the population according to their field of study.

Table 5. The share of students according to the field of study in University (%)

	% over the population	% over the "mobile" group	% over the "non-mobile" group
Economic graduates	28	73.8	26.2
STEM	32	75.2	24.8
Social & Humanitarian graduates	23	68.4	31.6
Medicine & Veterinary graduates	8	71.8	28.2
Natural science graduates	9	66.7	33.3

For these groups of graduates the descriptive statistics on independent variable (subjectively perceived quality of life in the place of study) are also provided.

Table 6. The distribution of the quality of life index in the locality of study among graduates’ fields of study

	Min	1st Q.	Median	Mean	3d Q.	Max	NA’s
Economic graduates	1	2.78	3.44	3.38	4	5	37
STEM	1	2.78	3.56	3.5	4.22	5	71
Social & Humanitarian graduates	1	2.78	3.44	3.41	4.11	5	23
Medicine & Veterinary graduates	1	2.78	3.44	3.36	4	5	24
Natural science graduates	1	2.78	3.44	3.42	4	5	9

In order to avoid wrong predictions of the analysis, the control variables should be included in the model. In terms of these variables we consider gender of the respondent because according to literature evidence males to greater extend take part in labour mobility [Karachurina, Mkrtchyan, 2016], the subjective level of income due to the desire of increasing economic state through labour migration [Sjaastad, 1962], the desire to relocate in another place due to career success, and the level of education of parents.

Table 7. Descriptive statistics on control variables

Variable	Number of cases	Mode
Educational level of mother	1681	6
Educational level of father	1681	4
Subjective material status	1681	4
Desire to relocate	1681	3

The proportion of gender if approximately 60% for females and 40% for males. It is due to extra sub-selection we have conduct for the purpose of the research.

Table 8. The distribution of gender

Female	Male	Total
968	713	1681

Table 9. The distribution of gender (%)

Female	Male
58	42

Results

The focus of the study is migration from one locality to another one. The most popular regions for relocation are the Moscow Region, Krasnodar Territory and Leningrad Region. The same regions are the places of retirement of young specialists. This can be explained by the fact that young professionals tend to both interregional and intraregional migration, for example, from the Moscow region to Moscow.

Table 10. TOP-3 regions of attraction and retirement among "mobile" youth (%)

Region	The share of "mobile" graduates studying in the locality	The share of "mobile" graduates living in the locality
Moscow Oblast	17%	22%
Krasnodar Krai	5%	6%
Leningrad Oblast	5%	6%

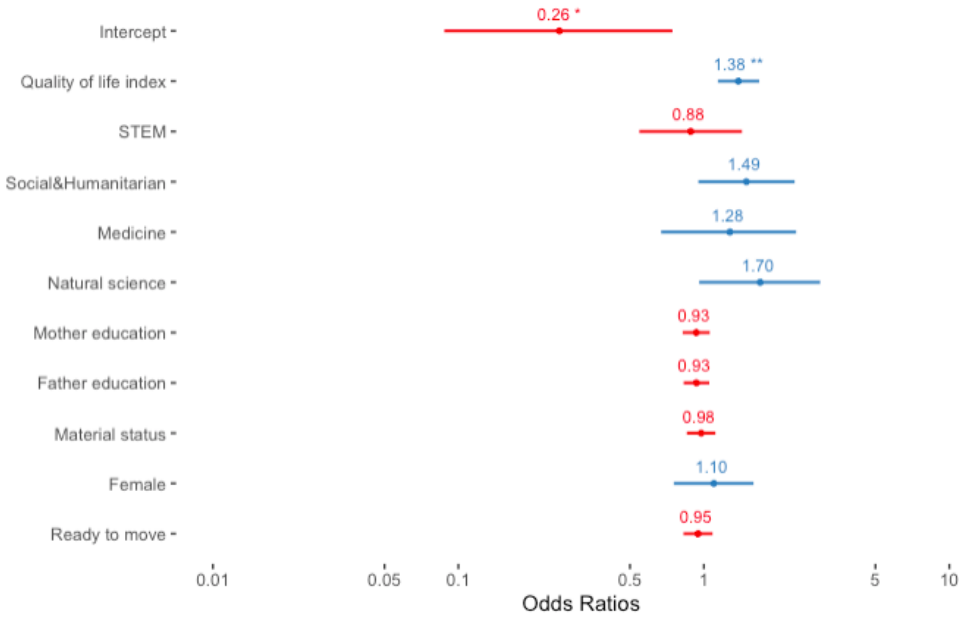
However, if we consider the relocation from one region to another one, the tendency is such that people from Oryol Oblast, Stavropol Krai and Sverdlovsk Oblast move to Moscow and Moscow region, also people from Sverdlovsk Oblast tent to work in Khanty-Mansi Autonomous Okrug or Tyumen Oblast. Nevertheless, there is also evidence that movements are concentrated within the same region and people just move from one city of the region to another one in the same region.

The index of subjectively perceived quality of life and the decision on labour mobility

In order to achieve the goal of the research we should consider the constructed index of subjectively perceived quality of life in the place of study. To start with, it might be interesting to concern average scores of subjectively perceived quality of life index in the place of study and test the difference between those, who have already taken part in labour mobility, and those, who have decided not to leave the place of study. According to hypothesis testing, there is statistically significant evidence about the difference between average scores of subjectively perceived quality of life index in the place of study among mobile and non-mobile groups of people (p-value < .000). In other words, graduates, who have left the place of study for work, have higher average scores of subjectively perceived quality of life index (3.54) than graduates, who have stayed after graduation at the same place (3.27). However, taking into account the background of juniors does not show a statistically significant difference among graduates' groups on the

subjectively perceived quality of life index in the place of study (p-value > .05), even only among the mobile group (p-value > .05) or non-mobile group (p-value > .05).

Nevertheless, to test one of the research hypotheses, the binary logistic model is built to estimate the odds of taking part in labour mobility depending on the level of subjectively perceived quality of life index in the place of study. According to the results in table 11, there is enough evidence to affirm a statistically significant positive relationship between the subjectively perceived quality of life index in the place of study and the involvement in labour mobility. Talking more precisely, the increase in the quality of life index by 1 unit leads to a growth of chances of relocation for work in another place by 38%.



Pic. 4. Odds ratio for binary choice model for subjectively perceived quality of life index in the place of study and labour migration

Table 11. Binary choice model for subjectively perceived quality of life index in the place of study and labour migration

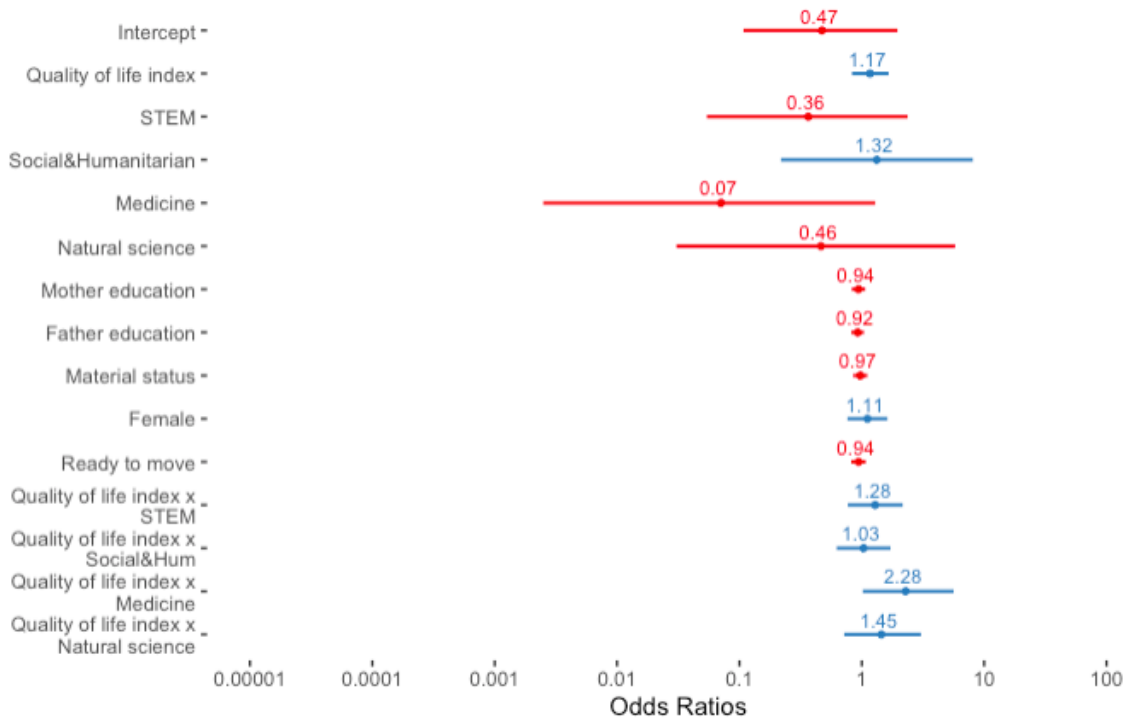
Predictors	Odds ratio
Intercept	0.26*
Quality of Life Index	1.38**
Specialization (STEM)	0.88
Specialization (soc&hum)	1.49
Specialization (medicine)	1.28
Specialization (Natural science)	1.70
Mother education	0.93
Father education	0.93
Material status	0.98
Gender (female)	1.10
Ready to move	0.98
Pseudo-R^2	0.026

*** p-value < 0.00, ** p-value <0.01, * p-value <0.05

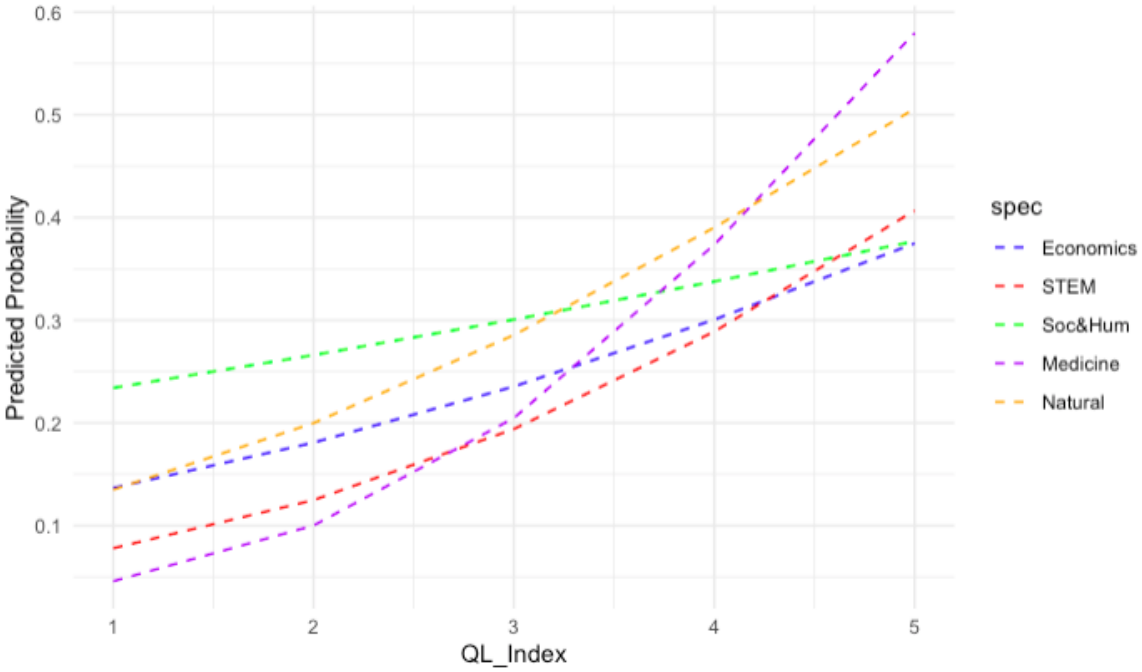
The model does not have problems of multicollinearity (all GVIFs-squared are less than 2) or heteroscedasticity (p-value > .05 for the studentized Breusch-Pagan test). However, the model could explain only 2,6% of the variation within the dependent variable. Therefore, the prediction of the model is weak and should be improved.

In the current research, the comparative perspective is applied. Therefore, the binary choice model has to include the interaction effect of graduates' university background on the subjectively perceived quality of life index in the place of study. Such implementation would help to check the impact of graduates' specializations on their subjectively perceived quality of life index in the place of study, providing insights into how the relationship between the field of study and quality of life index may vary across different study contexts.

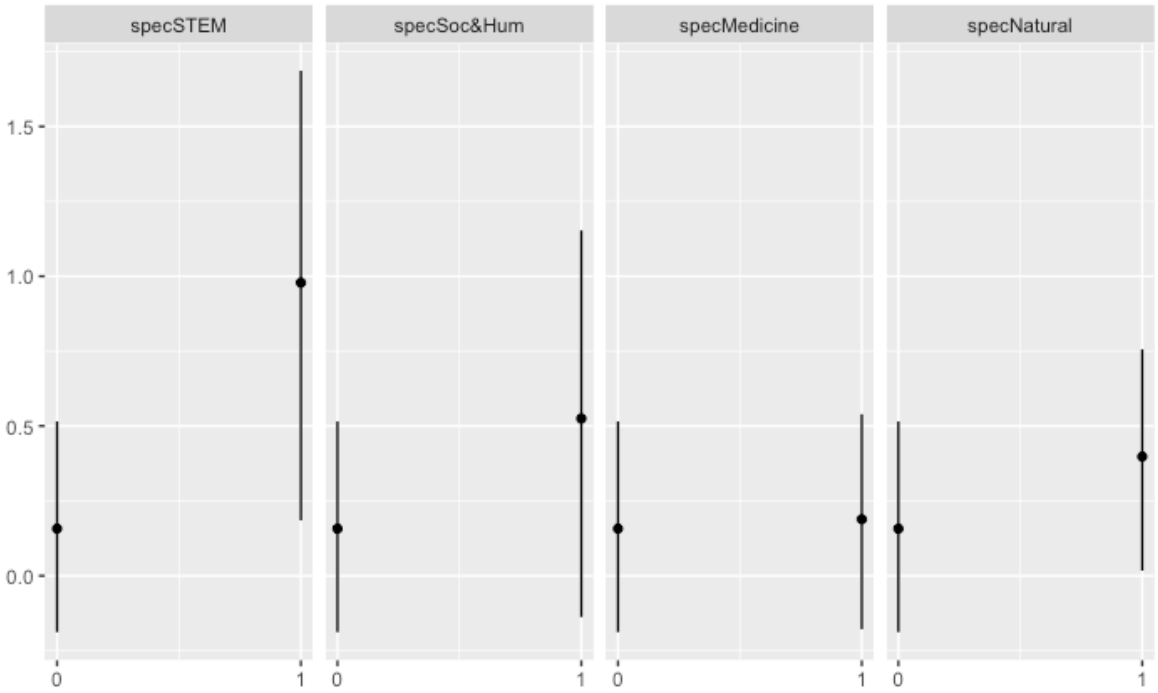
In the model in table 12, the interaction effect on subjectively perceived quality of life index in the place of study across different specializations is added to compare it with the baseline/ referent group (in terms of current research it is economics graduates). In this case, we consider separate effects of each predictor and combined ones. However, according to the results of the model, there is no statistically significant evidence to state that there are any differentiations in the impact of graduates' field of study compared to economics graduates on the subjectively perceived quality of life index in the place of study.



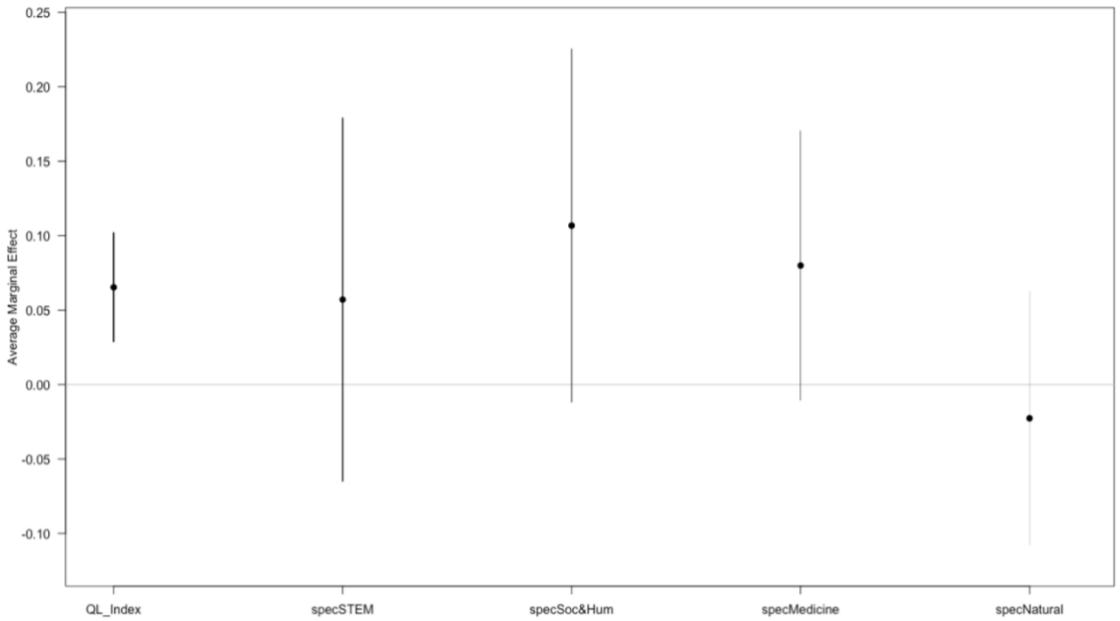
Pic. 5. Odds ratio for binary choice model for interaction effects of graduates' fields of study comparing to economics graduates on subjectively perceived quality of life index in the place of study and labour migration



Pic. 6. Interaction plot of graduates' fields of study comparing to economics graduates effects on subjectively perceived quality of life index in the place of study and labour migration



Pic. 7. Interaction effects of graduates' fields of study comparing to economics graduates on subjectively perceived quality of life index in the place of study and labour migration



Pic. 8. Average marginal effect of graduates' fields of study comparing to economics graduates on subjectively perceived quality of life index in the place of study and labour migration

Table 12. Binary choice model for interaction effects of graduates' fields of study on subjectively perceived quality of life index in the place of study and labour migration

Predictors	Odds ratio
Intercept	0.47
Quality of Life Index	1.17
Specialization (STEM)	0.36
Specialization (soc&hum)	1.32
Specialization (medicine)	0.07
Specialization (Natural science)	0.46
Quality of Life Index * Specialization (STEM)	1.28
Quality of Life Index * Specialization (Soc&Hum)	1.03
Quality of Life Index * Specialization (Medicine)	2.28
Quality of Life Index * Specialization (Natural science)	1.45
Mother education	0.94
Father education	0.92
Material status	0.97
Gender (female)	1.11
Ready to move	0.94
Pseudo-R^2	0.027

*** p-value < 0.00, ** p-value <0.01, * p-value <0.05

The model with subjectively perceived quality of life index in the place of study show positive association with participation in labour mobility. Such conclusion could not support for one of the research hypothesis and it is interesting to go deeper in data to find out possible causes of this outcome. To check it the subjectively perceived quality of life index in the place of work is built according to average scores of satisfaction levels with each component. In this case the satisfaction scores of each index's components for non-mobile group of graduates in the place of work is equal to satisfaction scores in the place of study due to absence of fact of labour migration.

Table 13. The distribution of subjectively perceived quality of life index in the locality of work

	Min	1st Q.	Median	Mean	3d Q.	Max
Sample	1	2.78	3.33	3.33	4	5
Mobile group	1	2.78	3.44	3.35	4	5
Non-mobile group	1	2.67	3.33	3.32	4.11	5

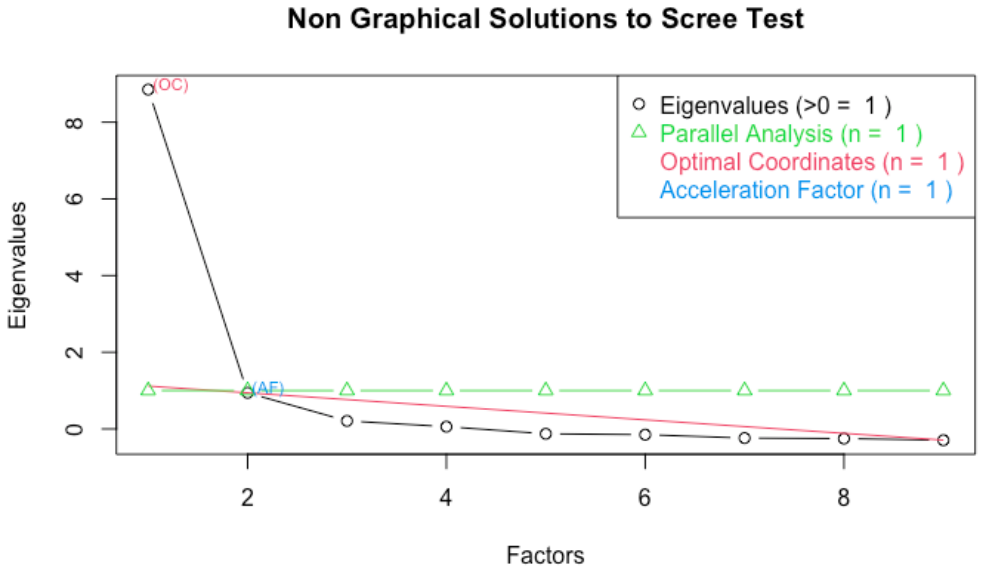
According to alpha Cronbah's coefficient (0.895) the index is consistent and could be considered. The average satisfaction level with the locality of work for the whole sample is equal to 3.33, on average mobile group of graduates satisfied with the place of work on 3.32 out of 5, while non-mobile group of graduates – 3.46. However, there is no statistically significant evidence (p-value > .05) to consider differentiation of average scores of subjectively perceived quality of life index in the place of work among mobile and non-mobile group. Nevertheless, we are more interested in comparing average scores of subjectively perceived quality of life index in the place of study and in the place of work. According to the test of average scores we could conclude the statistically significant difference (p-value < .01) in mean scores of subjectively perceived quality of life index in the place of work and in the place of study. In other words, in general, people assess the place of study higher (3.43) than the place of work (3.33). Especially, it is also statistically significant for mobile group of graduates (p-value < .01), they tend to assess satisfaction with the place of current residence lower (3.2) than satisfaction with the place of study (3.63). Consequently, it could be considered as possible reason and interpretation of the binary choice models' results. What is also important to note that the data has been collected at the same period of time, so question on the level of satisfaction with the locality of study and in the locality has been asked at the same time and after the fact of relocation. Thus, for the mobile group of graduates, the estimates could be biased due to the possible comparison of the place of current residence referring to the place of study.

The sub-indexes of subjectively perceived quality of life and the decision on labour mobility

The initial index of subjectively perceived quality of life in the locality of study consists of 9 different components, some of which have strong positive correlations with each other. Logically, these index indicators could be split into groups, in other words, into sub-indexes of general ones. Since the concept of quality of life could be considered as a latent variable, which we could not measure just by itself, it could be possible to conduct an explanatory factor analysis to check the opportunity to split the general index into sub-indexes. This approach may improve the binary choice model and concern the effects of subjectively perceived quality of life on labour mobility more precisely, highlighting particular factors of the concepts leading to relocation.

For this purpose, we have to check the possibility of splitting the general index into factors. According to the visual representation with the scree plot, which is based on a correlation matrix, the best option is supposed to be just 1 factor, in other words, it is the initial general index of subjectively perceived quality of life. However, referring to Kaiser criteria (eigenvalues > 0) it seems also possible to consider the solution with 2 factors, which means, 2

sub-indexes. According to explanatory factor analysis, we could examine the 1st factor about opportunities and prospective and the 2nd one is about the socio-economic sphere. This solution with 2 factors explains 59% of the variance.



Pic. 9. Scree plot for explanatory factor analysis of subjectively perceived quality of life components

Confirmatory factor analysis is also conducted. According to fit statistics in table 14 we may try to use model with 2-factors solution with some assumptions, in terms of current research, split the general index of subjectively perceived quality of life into 2 sub-indexes: opportunities & prospects (consists of Career opportunity, Salary level by profession, Salary level by profession, Business opportunity) and socio-economic sphere (consists of HealthCare, Transport, Culture, Housing conditions, Security). Thus, the sub-indexes have been constructed based on average scores of indicators. According to alpha Cronbach's coefficient both sub-indexes are consistent (0.879 for opportunities & prospects and 0.848 for socio-economic sphere).

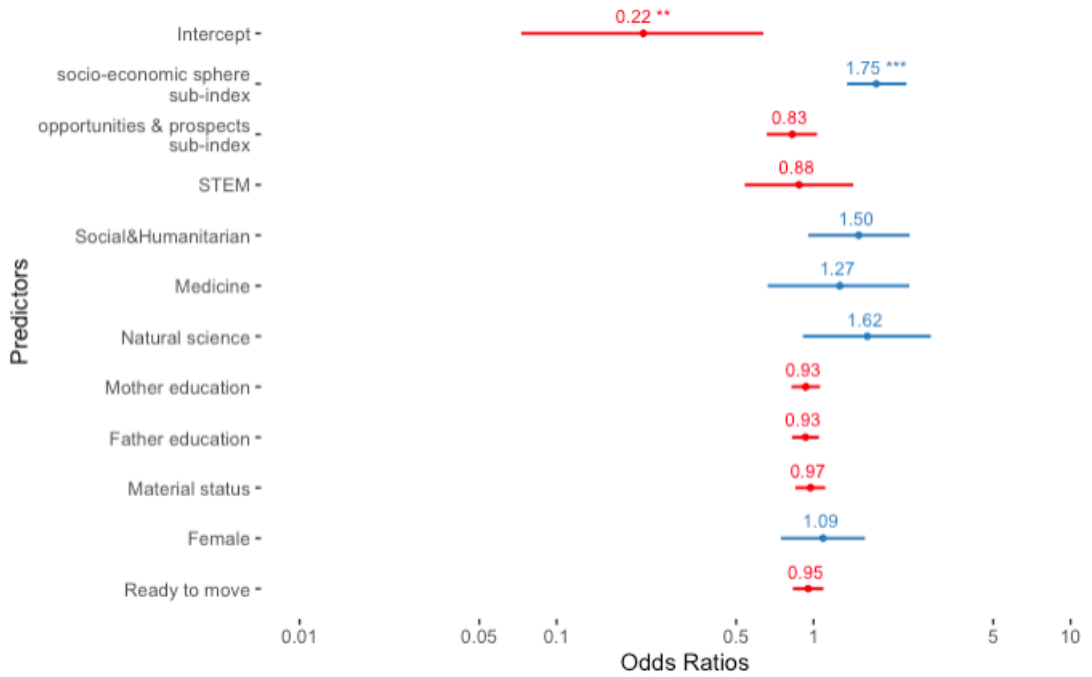
Table 14. Fit statistics of model with 2-factors solution

Chi-squared	df	p-value	SRMR	RMSEA	CFI	TLI
295.396	26	.000	0.033	0.083	0.963	0.949

Table 15. Factor loading of sub-indexes

Vatiable	Factor 1 (opportunities and prospects side)	Factor 2 (socio-economic side)
HealthCare	0.333	0.653
Transport	0.342	0.666
Culture	0.462	0.570
Housing conditions	0.271	0.739
Security	0.254	0.615
Career opportunity	0.829	0.338
Salary level by profession	0.715	0.274
Education opportunity for children	0.705	0.417
Business opportunity	0.639	0.384

In order to achieve the goal of the research and improve the results of previous models, a new binary choice model on labour mobility with considered above sub-indexes has been built. The new binary choice model with 2 sub-indexes does not have the problem of multicollinearity (all GVIFs-squared are less than 2) but has the problem of heteroscedasticity (for the the studentized Breusch-Pagan test p-value < .05). In other words, our estimates of logistic regression are still unbiased, but are not consistent, so that, we could not use these estimates to test the hypothesis. To cope with heteroscedasticity robust standard errors are applied. There is a statistically significant positive association between the fact of labour mobility and the socio-economic sphere sub-index. In other words, the higher level of satisfaction with this side of life increases the propensity to migrate by 75%.



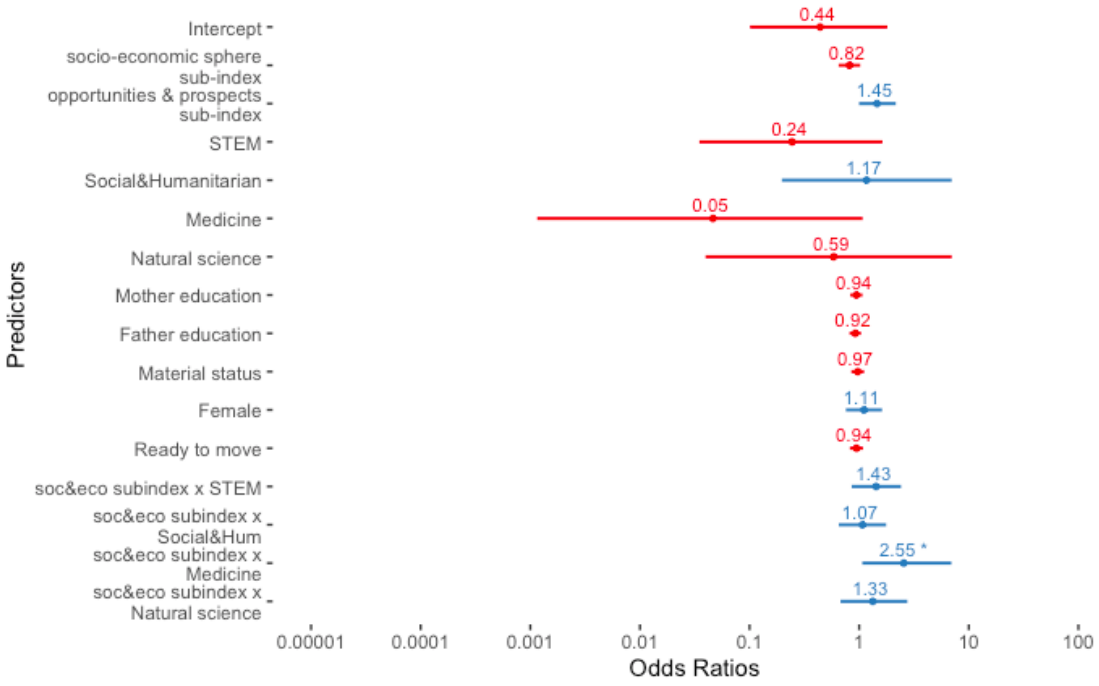
Pic. 10. Odds ratio for binary choice model for sub-indexes of subjectively perceived quality of life in the place of study and labour migration

Table 16. Binary choice model with robust standard errors for subjectively perceived quality of life index in the place of study and labour migration

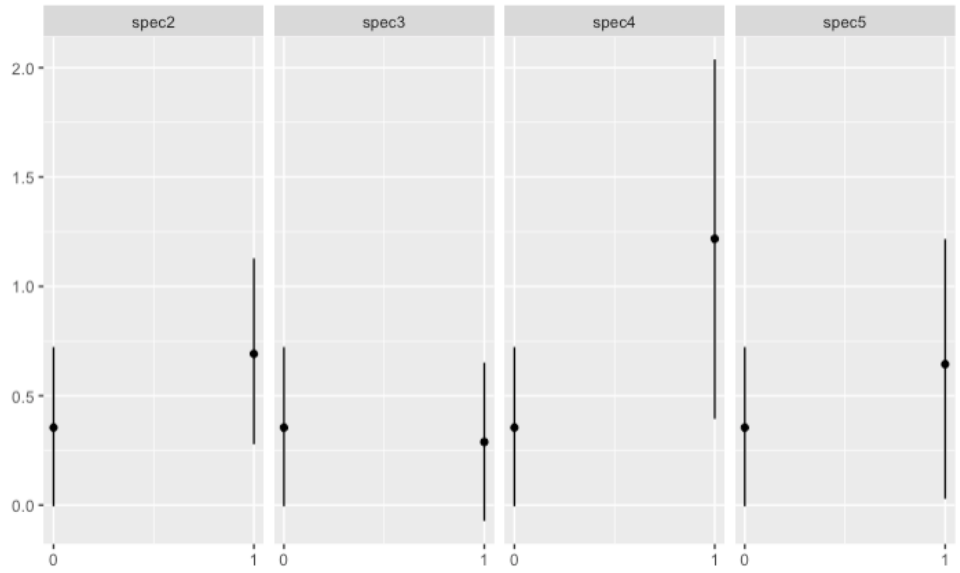
Predictors	Odds ratio
Intercept	0.22**
Socio-economic sphere sub-index	1.75**
Opportunities & prospects sub-index	0.83
Specialization (STEM)	0.88
Specialization (soc&hum)	1.5
Specialization (medicine)	1.27
Specialization (Natural science)	1.62
Mother education	0.93
Father education	0.93
Material status	0.97
Gender (female)	1.09
Ready to move	0.95
Pseudo-R^2	0.045

*** p-value < 0.00, ** p-value <0.01, * p-value <0.05

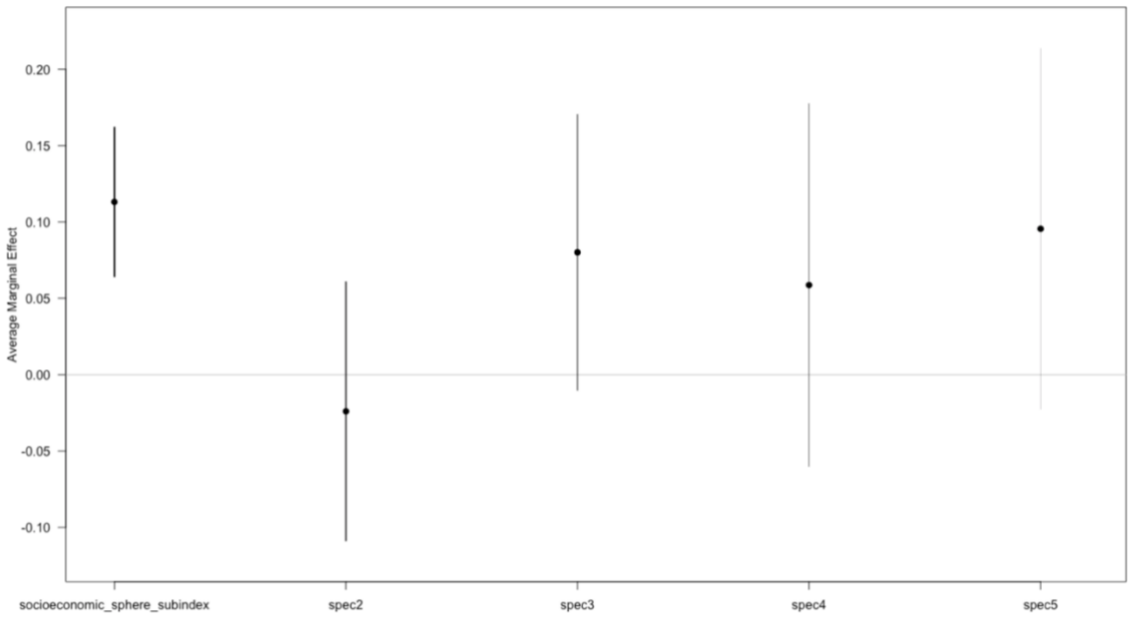
Also in the case of two sub-indexes the interaction effects of specializations is examined. This approach helps to check the impact of graduates' specializations on their subjectively perceived quality of life sub-indexes in the place of study, providing insights into how the relationship between field of study and quality of life sub-indexes may vary across different study context. In context of previous result, there is an interaction of graduates' specializations on Socio-economic sphere sub-index. Hence, considering the effect of interaction between graduates' background and socio-economic aspects of life factor we could claim that there is a statistically significant positive association between interaction effect for medicine students compared to economic students on the fact of migration. So, the propensity to be migrated for medicine graduates comparing to economists increases approximately by 2.55 times with the increase in the level of satisfaction with socio-economic aspects of life.



Pic. 11. Odds ratio for binary choice model for interaction effects of graduates' fields of study on subjectively perceived quality of life sub-index in the place of study and labour migration



Pic. 12. Interaction effects of graduates' fields of study comparing to economics graduates on subjectively perceived quality of life sub-index in the place of study and labour migration



Pic. 13. Average marginal effect of graduates' fields of study comparing to economics graduates on subjectively perceived quality of life sub-index in the place of study and labour migration

Table 17. Binary choice model for interaction effects of graduates' fields of study on subjectively perceived quality of life sub-index in the place of study and labour migration

Predictors	Odds ratio
Intercept	0.44
Socio-economic sphere sub-index * Specialization (STEM)	1.43
Socio-economic sphere sub-index * Specialization (Soc&Hum)	1.07
Socio-economic sphere sub-index * Specialization (Medicine)	2.55*
Socio-economic sphere sub-index * Specialization (Natural science)	1.33
Socio-economic sphere sub-index	1.45
Opportunities & prospects sub-index	0.82
Specialization (STEM)	0.24
Specialization (soc&hum)	1.17
Specialization (medicine)	0.05
Specialization (Natural science)	0.59
Mother education	0.94
Father education	0.92
Material status	0.97
Gender (female)	1.11
Ready to move	0.94
Pseudo-R^2	0.045

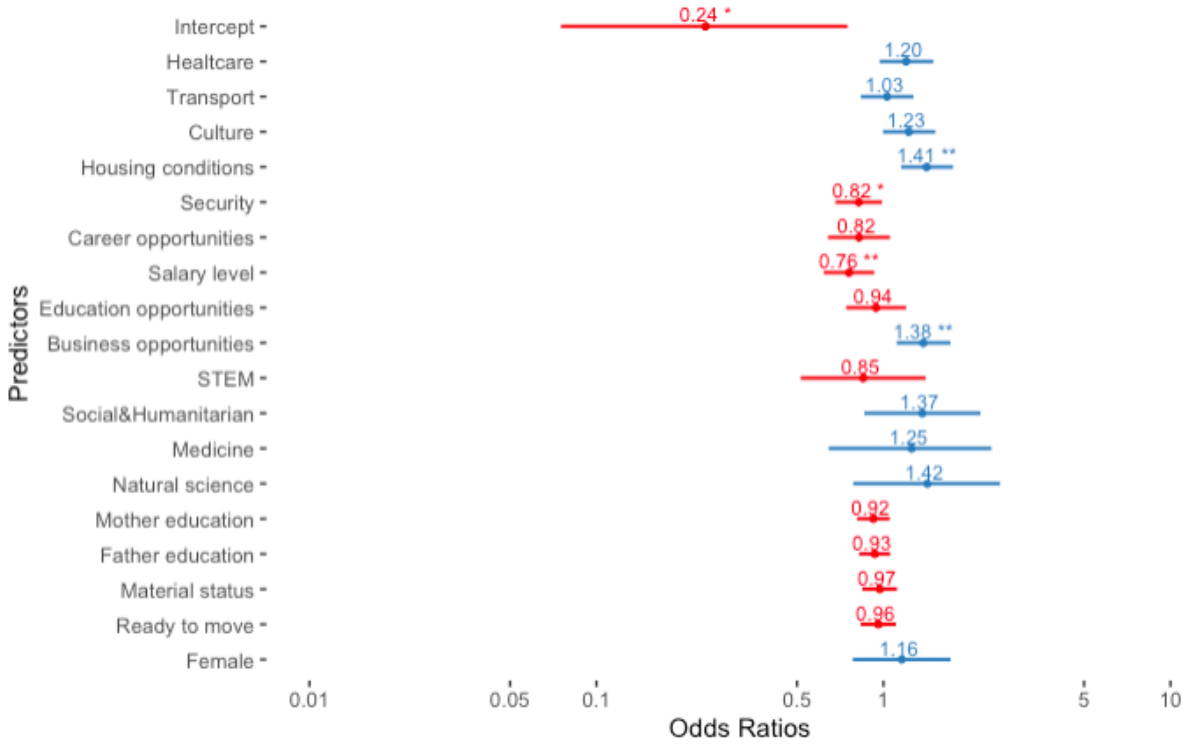
*** p-value < 0.00, ** p-value <0.01, * p-value <0.05

Indicators of subjectively perceived quality of life and the decision on labour mobility

Concerning sub-indexes of subjectively perceived quality of life in the locality of study, it seems it could be possible that some indicators of the quality of life concept have different impacts on the decision of participation in labour mobility. In this way, the estimation of quality of life components in the locality of study separately might provide exhaustive insight into how separate components of the quality of life concept may affect the decision on relocation. It may help to highlight which aspects of life in the locality of study are more crucial in the decision-making process of labour mobility.

In order to test our hypothesis of the research the binary choice model on each component of the quality of life has been built. The initial model with all included predictors does not have the problem of multicollinearity (all GVIFs-squared are less than 2), but has the problem of heteroscedasticity (for the studentized Breusch-Pagan test p-value < .05). In other words, our estimates of logistic regression are still unbiased, but are not consistent, so that, we could not use these estimates to test the hypothesis. To cope with heteroscedasticity robust standard errors are applied.

There is statistically enough evidence to state that there is a significant positive association between housing conditions in the place of study and the decision of participate in labour mobility. Also, there is a statistically significant positive association between business opportunities in the locality of study and the decision to participate in labour mobility. In other words, a higher satisfaction level with housing conditions in the locality of study increases the propensity to relocate by 41%, and separately higher satisfaction level with business opportunities in the locality of study increases the propensity to relocate by 38%. At the same time, there are 2 separate statistically significant associations between living security in the locality of study and the decision to participate in labour mobility and between salary level by profession and the decision to participate in labour mobility. This means that the growth of the satisfaction level of living security in the locality of study decreases the likelihood to migrate in another place for work by 18%, and the growth of satisfaction level of salary level by professionals in the locality of study decreases the likelihood to migrate in another place for work by 24%.

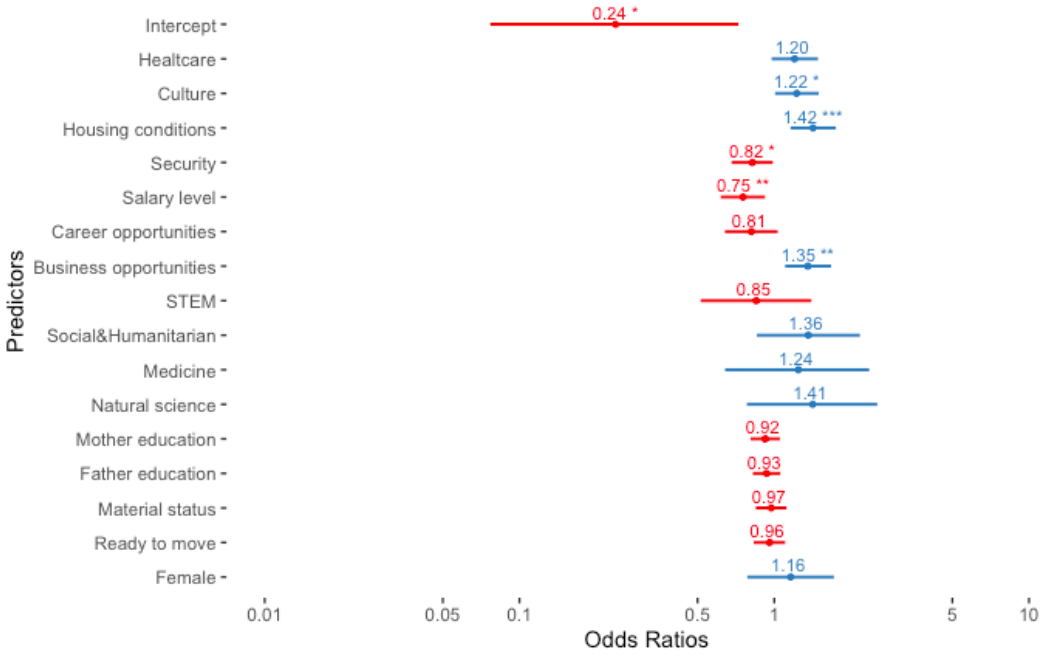


Pic. 14. Odds ratio for binary choice model components of subjectively perceived quality of life in the place of study and labour migration

However, the model could be improved. To do this the stepwise algorithm is applied. According to the Akaike information criterion (AIC), the best optimal model does not include the level of satisfaction with transport and education opportunities for children. The initial model again does not have the problem of multicollinearity (all GVIFs-squared are less than 2), but has the problem of heteroscedasticity (for the studentized Breusch-Pagan test p-value < .05). To cope with heteroscedasticity the robust standard errors are applied.

The results of the binary choice model show that there is a statistically significant positive association between the fact of labour migration and the satisfaction level of culture in the locality of the study. The growth of the satisfaction level with culture in the place of study increases the propensity to relocate by 22%. Also, there is a statistically significant positive association between the fact of labour migration and the satisfaction level of housing conditions in the locality of the study. The increase in the satisfaction level with housing conditions in the place of study raises the likelihood to relocate by 42%. In addition, there is a statistically significant positive association between the fact of labour migration and the satisfaction level of business opportunities in the locality of the study. The growth in the satisfaction level with business opportunities in the place of study increases the propensity of participation in labour migration by 35%. However, some aspects of life have a statistically significant negative association with the fact of labour mobility. For instance, the increase in the satisfaction level with security in the place of study decreases the likelihood to be migrating by 18%. Also, the

growth in the satisfaction level with salary level by profession in the place of study reduces the likelihood to be migrated by 25%.

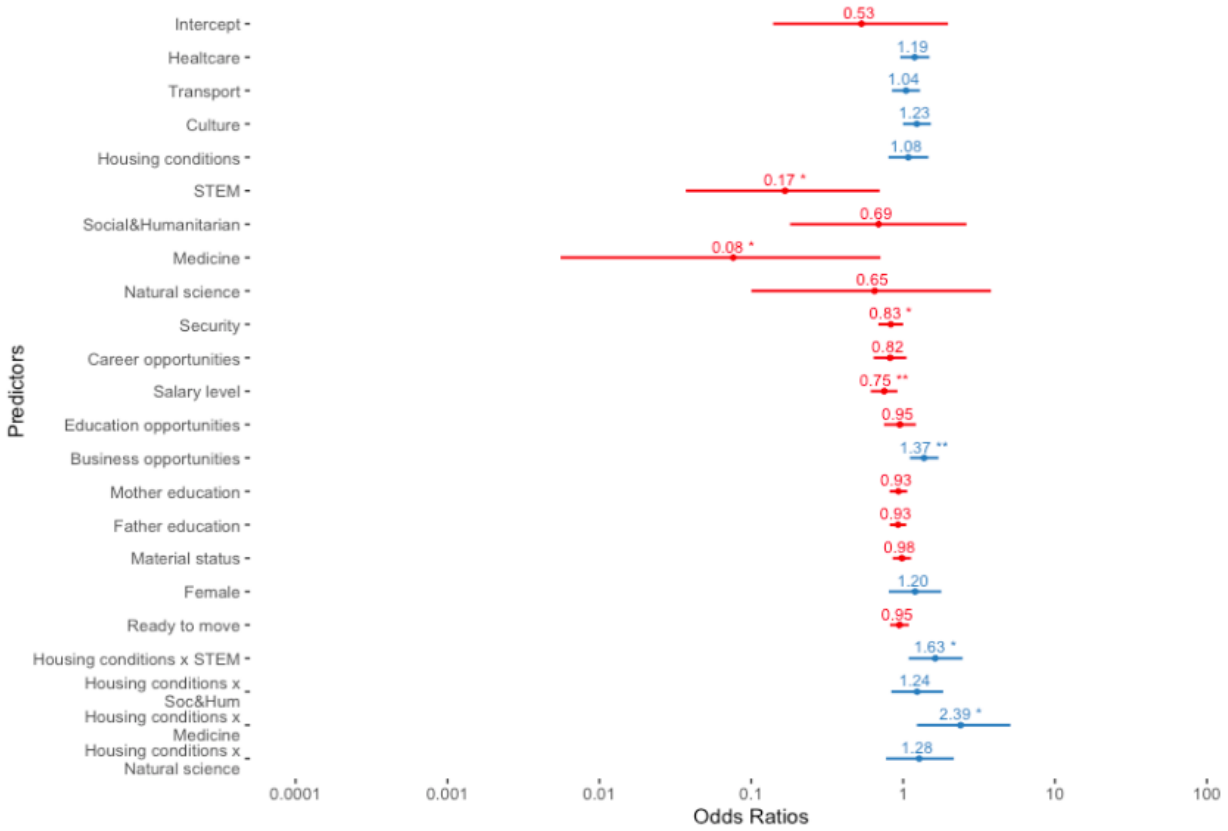


Pic. 15. Odds ratio for the best optimal binary choice model for components of subjectively perceived quality of life in the place of study and labour migration

Table 18. Binary choice models for components of subjectively perceived quality of life in the place of study and labour migration with robust standard errors

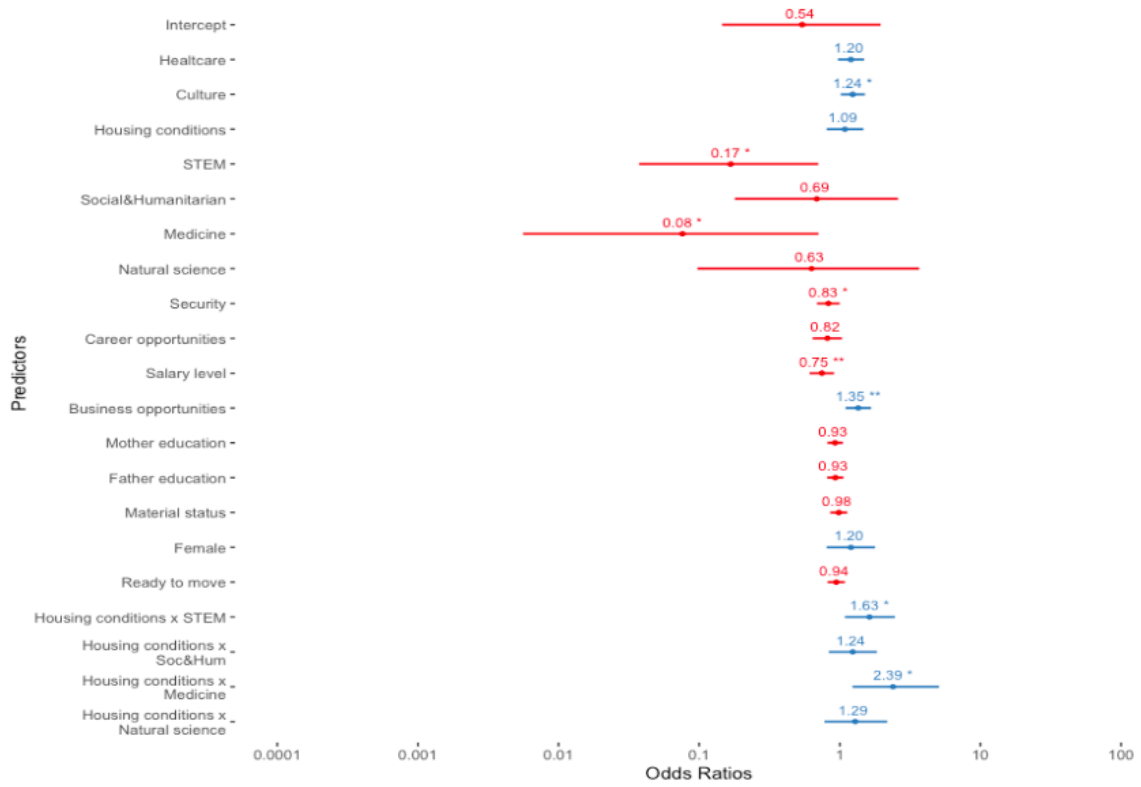
Predictors	Odds ratio	
	M. 1	**M. 2**
Satisfaction with socio-economic indicators in the region of study		
Healthcare	1.2	1.2
Transport (level of development of transport infrastructure and convenience of public transport)	1.03	-
Culture (possibility of visiting theaters, museums, exhibitions, libraries; provision of social infrastructure facilities)	1.23	1.22*
Housing conditions (level of communal services of apartments and houses)	1.41**	1.42***
Living security (crime rate, quality of police work)	0.82*	0.82*
Salary level by profession	0.76**	0.75**
Estimates of opportunities and prospects in the region of study		
Career opportunity	0.82	0.81
Education opportunity for children	0.94	-
Business opportunity	1.38**	1.35**
Specialisation		
STEM	0.85	0.85
Social & Humanitarian science	1.37	1.36
Medicine	1.25	1.24
Natural science	1.42	1.41
Control variables		
Gender (female)	1.16	1.16
Educational level of mother	0.92	0.92
Educational level of father	0.93	0.93
Subjective material status	0.97	0.97
Ready to move	0.96	0.96
Intercept	0.24*	0.24**
Pseudo-R^2	**0.086**	**0.085**

At the case of investigation separate aspects of life, which are also part of quality of life concept, there is also crucial to have a look at interaction effects of graduates' fields of study on the satisfaction level with all considered aspect of life in the locality of study in terms of participation in labour migration. According to results of multiple binary choice models with separate interaction effect of graduates' field of study on each quality of life component, there is only one statistically significant association between interaction effect on housing conditions in the locality of study for STEM graduated compared to economics graduates and for medicine graduates compared to economics graduates. For other aspects of life which are indicators of quality of life in the locality of study there is not enough evidence to emphasize a statistically significant association between each separate component of quality of life concept and labour mobility participation in terms of graduates' background compared to economists.

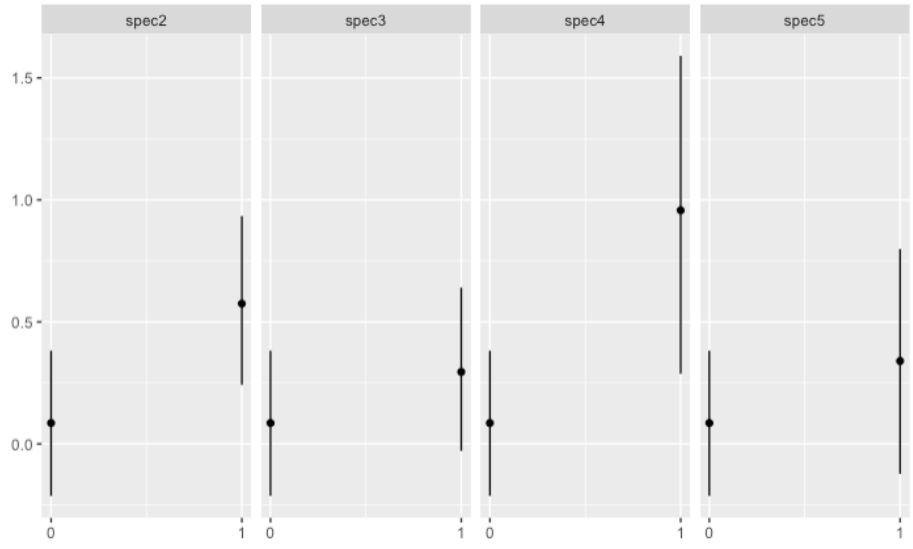


Pic. 16. Odds ratio for binary choice model for interaction effects of graduates' fields of study comparing to economics graduates on components of subjectively perceived quality of life in the place of study and labour migration

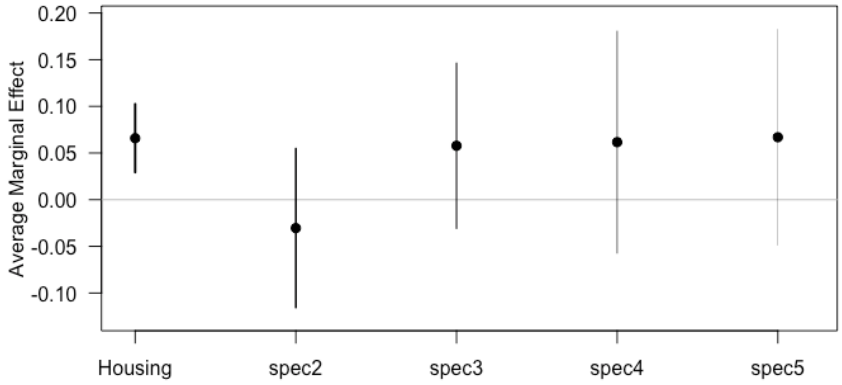
However, the model could be improved. To do this the stepwise algorithm is applied. According to the Akaike information criterion (AIC), the best optimal model does not include the level of satisfaction with transport and with education opportunity for children. Considering the interaction effect of specialization on these indicators of quality of life, the interaction effect of graduates' background on housing condition in the locality of study is the only one statistically significant. For STEM graduates, there is positive association between housing conditions in the locality of study and the decision on labour mobility compared to economics graduates. The propensity of relocation increases by 63% for STEM graduates with an increase of satisfaction level with housing conditions in the locality of study compared to economics graduates. Moreover, there is another statistically significant positive association between housing conditions in the locality of study and the decision on labour mobility for medicine graduates compared to economics graduates. The growth in the level of satisfaction with housing conditions in the locality of study increases the likelihood of relocation for medicine graduates compared to economics graduates by 2.39 times.



Pic. 17. Odds ratio for the best optimal binary choice model for interaction effects of graduates' fields of study comparing to economics graduates on components of subjectively perceived quality of life in the place of study and labour migration



Pic. 18. Interaction effects of graduates' fields of study comparing to economics graduates on components of subjectively perceived quality of life in the place of study and labour migration



Pic. 19. Average marginal effect of graduates' fields of study comparing to economics graduates on components of subjectively perceived quality of life sub-index in the place of study and labour migration

Table 19. Binary choice model for interaction effects of graduates' fields of study on components of subjectively perceived quality of life in the place of study and labour migration

Predictors	Odds ratio	
	M. 1	M. 2
Interaction effect		
Housing conditions * specialization (STEM)	1.63*	1.63*
Housing conditions * specialization (Social & Humanitarian science)	1.24	1.24
Housing conditions * specialization (Medicine)	2.39*	2.39*
Housing conditions * specialization (Natural science)	1.28	1.29
Satisfaction with socio-economic indicators in the region of study		
Healthcare	1.19	1.2
Transport (level of development of transport infrastructure and convenience of public transport)	1.04	-
Culture (possibility of visiting theaters, museums, exhibitions, libraries; provision of social infrastructure facilities)	1.23	1.24*
Housing conditions (level of communal services of apartments and houses)	1.08	1.09
Living security (crime rate, quality of police work)	0.83*	0.83
Salary level by profession	0.75**	0.75**
Estimates of opportunities and prospects in the region of study		
Career opportunity	0.82	0.82
Education opportunity for children	0.95	-
Business opportunity	1.37**	1.35**
Specialisation		
STEM	0.17*	0.17*
Social & Humanitarian science	0.69	0.69
Medicine	0.08*	0.08*
Natural science	0.65	0.63
Control variables		
Gender (female)	1.2	1.2
Educational level of mother	0.93	0.93
Educational level of father	0.93	0.93
Subjective material status	0.98	0.98
Ready to move	0.95	0.94
Intercept	0.53	0.54
Pseudo-R^2	**0.098**	**0.098**

Insights based on the previous models for separate quality of life indicators could not support for research hypothesis. Hence, further data analysis of possible reason of the outcome might be conducted. One of the possible way to find out the contradiction is to test the difference of satisfaction level with these aspects of life in the locality of study and in the locality of current residence between mobile and non-mobile groups of graduates. According to t-tests mobile graduates in general tend to estimate healthcare, Transport, Culture, Housing conditions, Career opportunity, Education opportunity for children, Business opportunity in the locality of study than non-mobile graduates (all p-values $< .05$ for mentioned aspects of life). Focusing on migrated graduates only, we could state that they are also more satisfied with the same quality of life characteristics in the locality of study rather than in the locality of current residence (all p-values $< .05$ for mentioned aspects of life). However, it is important to emphasize once again that questions assessing the satisfaction level with these aspects of life in the locality of study have been asked at the same period of time as questions assessing the satisfaction level with these aspects of life in the locality of work have been asked. Thus, respondents have built their estimates of satisfaction level of quality of life in the current place of residence referring to the locality of study. That is why there is bias in the data to some extent and results contradicts with research hypothesizes based on literature and previous investigations.

Conclusion

The investigation of such complex process as labour mobility might be beneficial for controlling migration flows and especially outflows of human capital with huge potential for localities' development. Due to the fact that individuals during the decision-making process on labour mobility participation take into consideration the comparison of satisfaction level of the current place of residence and desired place of life, the quality of life concept states relevant to be considered in this field of study. Moreover, since the majority of participants in the labour mobility are young highly-educated and highly-qualified junior specialists, it is also might be engaging to concern graduates' backgrounds due to the facts that the labour market differentiates among specializations and graduates from different backgrounds could have a different set of skills, which means that human capital varies across graduates and one set of skill might be more flexible and mobile for migration, while others do not. Previous evidence shows consideration of the satisfaction levels of some aspects of life but without conceptualization and comparative perspective.

In this paper, possible indicators of quality of life are concerned. The quality of life has been examined as the factor causing labour migration among Russian young professionals from different fields of study. Indeed, the level of subjectively perceived quality of life determines and effect the labour mobility of Russian graduates from different fields of study. For instance, the subjectively perceived quality of life index has a positive relationship with participation in labour mobility, but unexpectedly to literature and previous studies, higher estimates of quality of life in the locality of study increase the likelihood of migration to another locality for work among Russian graduates. Also, the effect of the general index does not vary among graduates from different fields of study compared to economists. However, during detailed analysis, we have found out that on average graduates tend to estimate the satisfaction level of the study locality higher than the satisfaction level of the current living locality. Thus, this insight from data may be a clue for contradictive results.

In order to improve the model and test another hypothesis of the research the general index of subjective quality of life has been split into 2 sub-indexes: opportunities and perspectives and socio-economic aspects of life. The results of the analysis show that a higher level of satisfaction with socioeconomic aspects of life leads to an increase in chances to leave the locality of study for another one for work. What is more, this effect varies across different groups of graduates. Compared to economists, the effect of socioeconomic aspects of life on the chances of participation in labour mobility increases for students from medicine and veterinary studies. So, it is a significant and important driving factor for medical graduates. Such a conclusion also contradicts to concerned evidence before. Nevertheless, detailed data analysis

shows again that on average graduates tend to evaluate the locality of study higher than the locality of current residence. This note could be considered as a possible explanation of contradictions with literature.

Talking more precisely about each aspect of life, we could point out that satisfaction with business opportunities in the locality of study, satisfaction with housing conditions in the locality of study and satisfaction with culture in the locality of study leads to labour mobility in a positive way, so people tend to relocate for a job in another place. Besides, the effect of housing conditions in the locality of study on participation in labour mobility varies across graduates with different backgrounds compared to economic graduates. Former students of the STEM field of study compared to former students of the economic field of study and former students of the medical field of study compared to former students of the economic field of study pay more attention to housing conditions during making-decision on the labour mobility process.

This field of study might be beneficial for policy-makers, to pay attention to weak and strong sides of the place to stimulate or reduce migration flows in and out of the locality. Despite to limitations of the study and faced with contradictions, according to the results of the current study, policy-makers should pay attention to quality of life in the place, since it is driving factor of labour mobility. Rational control of this indicator may reduce outflows and intact new flows. From a pragmatic point of view, socio-economic aspects such as healthcare, should be improved in general. Speaking more precisely, cultural activities and especially housing conditions could be driving factors for labour mobility. At the same time, business opportunities and living security have to be developed as well. To keep specialists with strong human capital from STEM and medicine industries it is vital to focus on housing conditions for juniors.

Discussion

In this paper, an attempt to systematize ideas about the effect of quality of life on the decision to relocate among Russian young professionals has been made. To some extent, the results of the research have turned out to be contradictive and counterintuitive referring to the literature and previous inquiries in this field of study, and expected associations are statistically insignificant.

Due to study limitations, the results could not be considered final point in the research of labour mobility and quality of life concept. There is data selection bias. The research design of the panel survey has not been controlled by the authors of the current research. Crucial questions for the goal of the study have been asked during the same wave of collecting data. Due to this issue, respondents compare the satisfaction level of the locality of the current residence with the satisfaction level of the previous locality (which is equal to the locality of the study). Therefore, in terms of labour mobility the data is biased since people should compare aspects of life in the place of current residence (in the place of study in the context of panel survey) with these characteristics in the desired locality. Hence, this remark could be taken into account for further panel studies of labour mobility.

Moreover, the work could be continued and improved with consideration of the hierarchical data structure, by separating the universities that young specialists graduated from into high- and low-selective ones. Also, it might be engaging to have a look at mobility strategies / paths, since labour mobility could be achieved through educational ones. In addition, since the idea of the study is the focus on labour mobility in terms of subjectively perceived quality of life effect, one of the possible control variables may be subjective well-being. However, before including this concept in the research framework, a detailed analysis should be applied in terms of previous studies and possible statistical issues.

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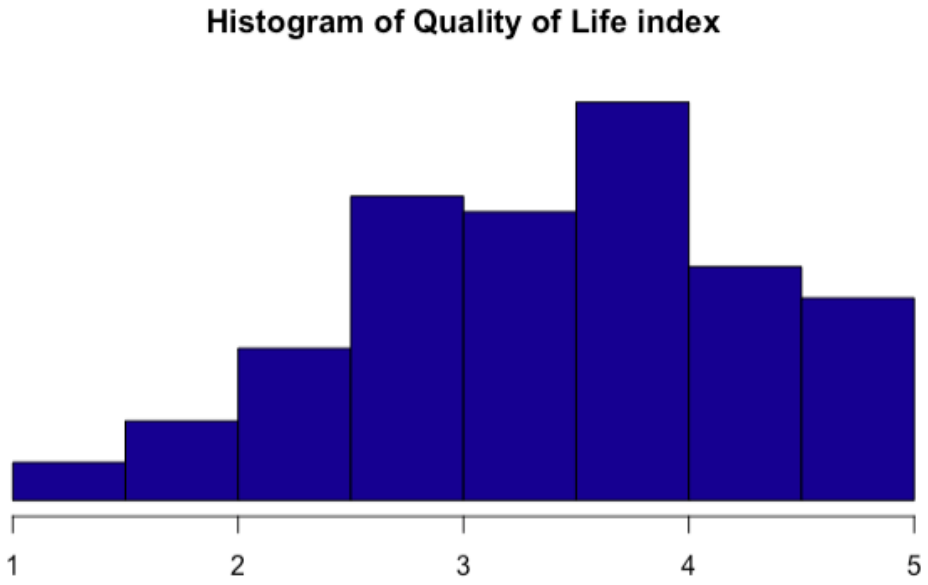
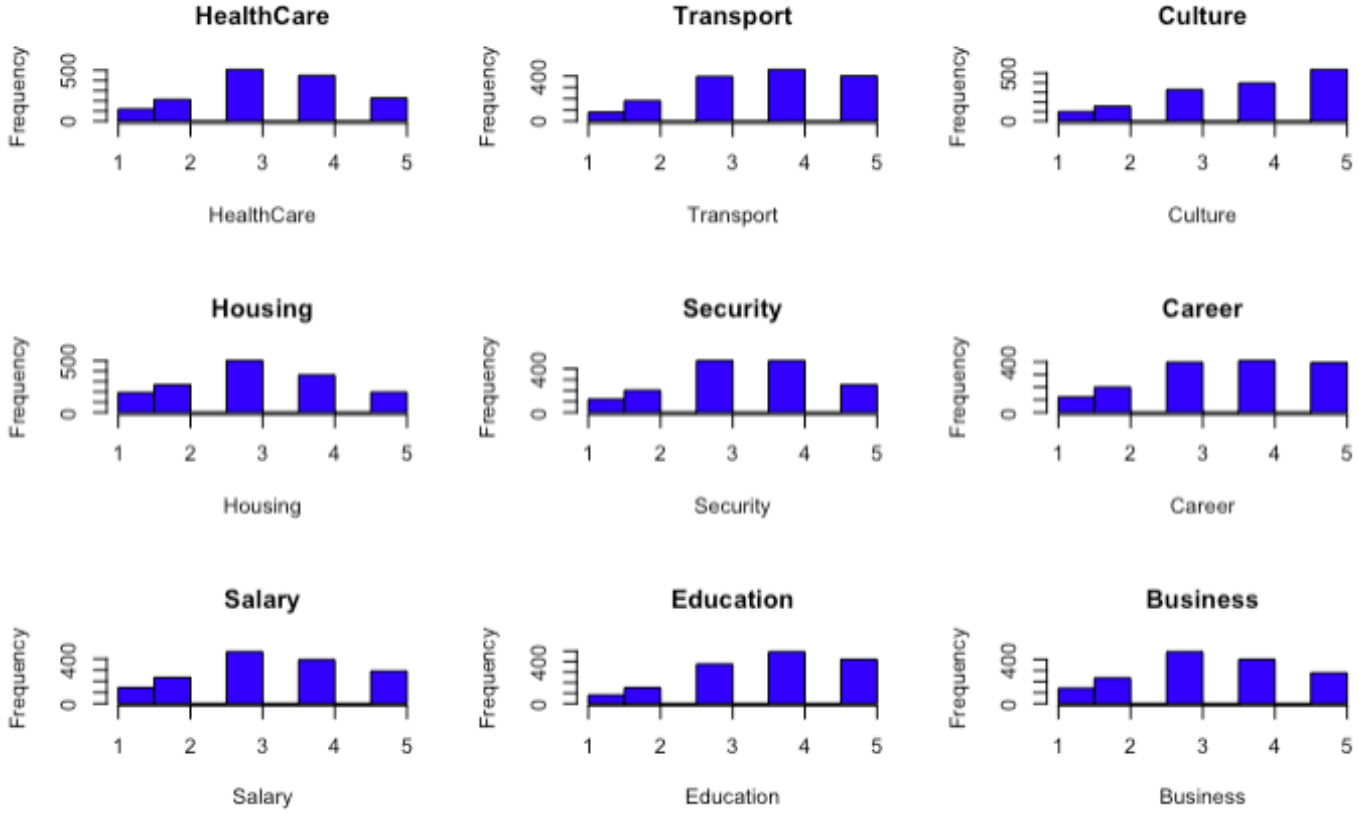
Appendix

Tab 1. Operationalization of dependent, independent and control variables

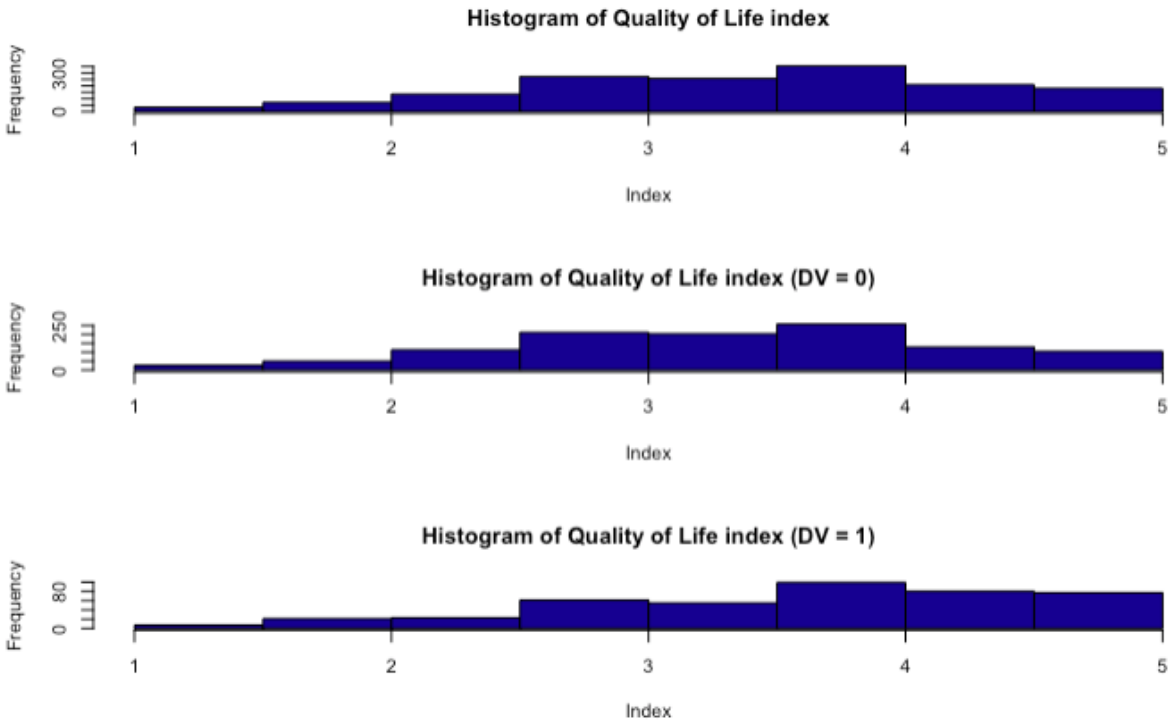
Concept	Indicators	Type of variable	Question	Scale
Labour mobility	The fact of relocation	Dependent	Do you now live in the same locality where you graduated from a university (college/technical school), or in another?	Binary: 0 – same place, 1 – another place
Quality of life	Healthcare	Independent	To which extent to you satisfy with the following aspects of the life in the place where you live / studyed	5-point scale, where 1 – absolutely not satisfied (-a), 5 – absolutely satisfied (-a)
	Transport			
	Culture			
	Housing conditions			
	Living security			
	Career opportunities			
	Salary level by profession			
	Opportunities for education and development of children			
	Opportunities for entrepreneurial activity			
Gender	The gender of respondent	Control		Nominal: 0 – female; 1 – male
Educational level of mother	The educational level of respondent's father	Control	What level of education your mother has been achieved?	Categorical:1-medium school; 2 – primary professional education; 3 – high school; 4 - professional education; 5-uncompleted high education; 6- high education; 7-PhD
Educational level of father	The educational level of respondent's mother	Control	What level of education your father has been achieved?	
Subjective material status	The material status of the respondent's household	Control	How could you describe the material status of your family?	Categorical: 1 - there is not enough money even for food 2 - there is enough money for food, but not enough to buy clothes and shoes 3 - there is enough money to buy clothes and shoes, but not enough to buy large household appliances 4 - there is enough money to buy large household appliances, but we cannot buy a new car 5 - there is enough money for everything except such expensive purchases as an apartment, a house 6 - we do not experience any financial difficulties, if necessary, we could buy an apartment, a house
Ready to relocate	The desire to relocate	Control	Are you ready to move in the future for the sake of work, career success or in another sphere of life?	Categorical: 1 - to another locality within the region where I live now 2 - to another region of the country 3- to another country 4- not ready to move anywhere 5- I find it difficult to answer



Pic.1. Distribution of quality of life index in the locality of study



Pic.2. Distribution of quality of life index components in the locality of study



Pic.3. Distribution of quality of life index components in the locality of study for mobile and non-mobile graduates

Table 2. Correlation matrix on quality of life components in the place of current living

	HealthCare	Transport	Culture	Housing	Security	Career	Salary	Education	Business
HealthCare	1.00	0.56	0.51	0.57	0.49	0.50	0.41	0.50	0.46
Transport	0.56	1.00	0.60	0.57	0.47	0.52	0.43	0.50	0.41
Culture	0.51	0.60	1.00	0.53	0.42	0.59	0.44	0.60	0.49
Housing	0.57	0.57	0.53	1.00	0.56	0.46	0.41	0.49	0.49
Security	0.49	0.47	0.42	0.56	1.00	0.41	0.38	0.43	0.42
Career	0.50	0.52	0.59	0.46	0.41	1.00	0.70	0.71	0.65
Salary	0.41	0.43	0.44	0.41	0.38	0.70	1.00	0.61	0.54
Education	0.50	0.50	0.60	0.49	0.43	0.71	0.61	1.00	0.66
Business	0.46	0.41	0.49	0.49	0.42	0.65	0.54	0.66	1.00

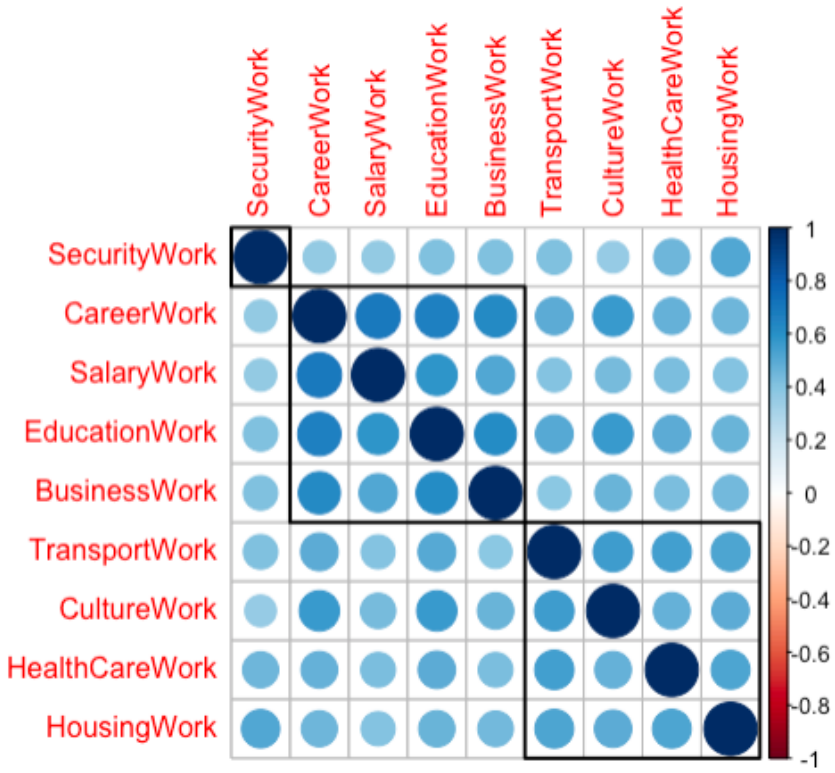
Table 3. Descriptive statistics on quality of life components in the place of current living based on graduates' field of study

	Min	1st Q.	Median	Mean	3d Q.	Max	NA's
Healthcare							
Economic graduates	1	3	3	3.18	4	5	37
STEM	1	3	3	3.42	4	5	71
Social & Humanitarian graduates	1	3	3	3.27	4	5	23
Medicine & Veterinary graduates	1	3	4	3.42	4	5	24
Natural science graduates	1	3	3	3.26	4	5	9
Transport							
Economic graduates	1	3	4	3.57	5	5	37
STEM	1	3	4	3.72	5	5	71
Social & Humanitarian graduates	1	3	4	3.49	4	5	23
Medicine & Veterinary graduates	1	3	4	3.56	4	5	24
Natural science graduates	1	3	4	3.66	5	5	9
Culture							
Economic graduates	1	3	4	3.71	5	5	37
STEM	1	3	4	3.73	5	5	71
Social & Humanitarian graduates	1	3	4	3.76	5	5	23
Medicine & Veterinary graduates	1	3	4	3.58	5	5	24
Natural science graduates	1	3	4	3.86	5	5	9
Housing conditions							
Economic graduates	1	2	3	3.03	4	5	37
STEM	1	2	3	3.11	4	5	71
Social & Humanitarian graduates	1	2	3	3.05	4	5	23
Medicine & Veterinary graduates	1	2	3	2.9	4	5	24
Natural science graduates	1	3	3	3.21	4	5	9
Living security							
Economic graduates	1	3	3	3.31	4	5	37
STEM	1	3	4	3.41	4	5	71
Social & Humanitarian graduates	1	3	3	3.35	4	5	23
Medicine & Veterinary graduates	1	3	3	3.28	4	5	24
Natural science graduates	1	3	3	3.32	4	5	9

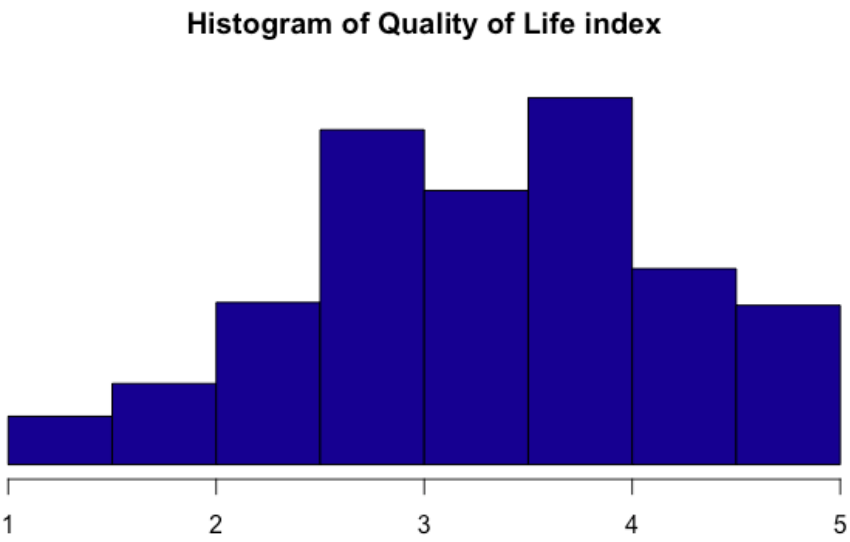
	Min	1st Q.	Median	Mean	3d Q.	Max	NA's
Career opportunities							
Economic graduates	1	3	4	3.44	4	5	37
STEM	1	3	4	3.58	5	5	71
Social & Humanitarian graduates	1	3	4	3.51	5	5	23
Medicine & Veterinary graduates	1	3	4	3.45	4	5	24
Natural science graduates	1	2	3	3.39	4	5	9
Salary level by profession							
Economic graduates	1	3	3	3.27	4	5	37
STEM	1	3	4	3.48	4	5	71
Social & Humanitarian graduates	1	2	3	3.22	4	5	23
Medicine & Veterinary graduates	1	2	3	3.13	4	5	24
Natural science graduates	1	2	3	3.11	4	5	9
Opportunities for education and development of children							
Economic graduates	1	3	4	3.57	4	5	37
STEM	1	3	4	3.76	5	5	71
Social & Humanitarian graduates	1	3	4	3.66	5	5	23
Medicine & Veterinary graduates	1	3	4	3.66	4.75	5	24
Natural science graduates	1	3	4	3.72	5	5	9
Opportunities for entrepreneurial activity							
Economic graduates	1	3	3	3.26	4	5	37
STEM	1	2	3	3.29	4	5	71
Social & Humanitarian graduates	1	3	3	3.38	4	5	23
Medicine & Veterinary graduates	1	3	3	3.25	4	5	24
Natural science graduates	1	3	3	3.24	4	5	9

Table 4. Descriptive statistics on quality of life components in the place of current living

Variable	Number of cases	Mean	Standard deviation
Satisfaction with socio-economic indicators in the locality of residence			
Healthcare	1681	3.16	1.16
Transport (level of development of transport infrastructure and convenience of public transport)	1681	3.52	1.17
Culture (possibility of visiting theaters, museums, exhibitions, libraries; provision of social infrastructure facilities)	1681	3.54	1.31
Housing conditions (level of communal services of apartments and houses)	1681	2.96	1.21
Living security (crime rate, quality of police work)	1681	3.37	1.15
Salary level by profession	1681	3.28	1.21
Estimates of opportunities and prospects in the locality of residence			
Career opportunities	1681	3.4	1.27
Opportunities for education and development of children	1681	3.54	1.17
Opportunities for organizing your own business, entrepreneurial activity	1681	3.18	1.21



Pic.4. Correlation matrix for indicators of quality of life in the place of current residence



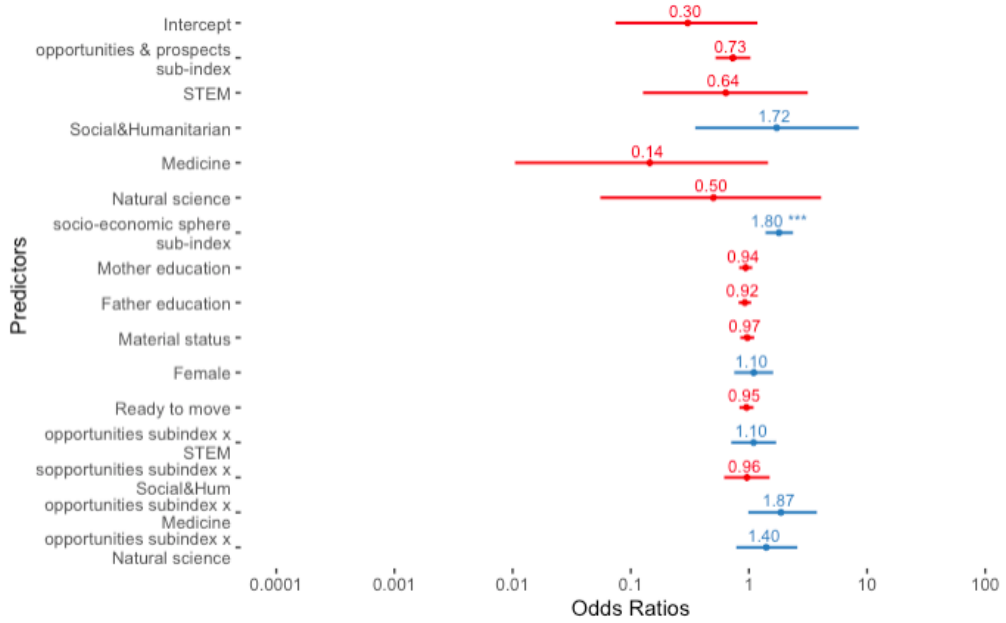
Pic.5. Distribution of quality of life in the place of current residence

Table 5. The distribution of subjectively perceived *opportunities & prospects* sub-index in the locality of study

	Min	1st Q.	Median	Mean	3d Q.	Max
Sample	1	2.75	3.5	3.442	4.25	5
Mobile group	1	3	3.750	3.596	4.5	5
Non-mobile group	1	2.75	3.5	3.382	4	5

Table 6. The distribution of subjectively perceived *socio-economic sphere* sub-index in the locality of study

	Min	1st Q.	Median	Mean	3d Q.	Max
Sample	1	2.8	3.4	3.413	4	5
Mobile group	1	3	3.8	3.661	4.2	5
Non-mobile group	1	2.8	3.4	3.317	4	5



Pic.6. Odds ratio for binary model for interaction effect of specializations on opportunities & prospective sub-index and labour mobility