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ВОСПРОИЗВОДСТВО ЧЕЛОВЕЧЕСКОГО КАПИТАЛА В АЛТАЙСКОМ КРАЕ

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Статья подготовлена в рамках государственного задания Министерства науки и высшего образования Российской Федерации FZMW-2020–0001 «Человеческий капитал, миграции и безопасность: трансформация в новых миграционных условиях в приграничных регионах России».

Аннотация. Научная значимость исследования определяется актуальностью уровня воспроизводства человеческого капитала.

Специфика воспроизводства определяет демографическую безопасность региона и страны. Исследование направлено на описание социальных механизмов воспроизводства демографических показателей Алтайского Края, динамики рождаемости и специфики репродуктивного поведения молодежи региона. Анализ демографических и социальных показателей предполагает междисциплинарный подход. Проанализированы социальные теории риска и безопасности, благополучия и резерва самосохранения населения. Эти теории являются основой для оценки и прогнозирования депопуляции в России на региональном уровне. Более того, в исследовании использовалась концепция интегративной социальной уязвимости. Предложенную концепцию можно использовать для оптимизации социального государственного управления политической безопасности. В исследовании представлены научно обоснованные данные об экономических, институциональных, социальных, психологических и поведенческих детерминантах, которые определяют мотивацию различных социальных и возрастных групп населения региона, увеличивающих продолжительность активного и здорового образа жизни. Кроме того, исследование описывает механизм социально-демографического взаимодействия, в том числе системного функционирования в контексте социальной безопасности. Интегративная концепция социальной уязвимости определяет новизну полученных результатов. В статье обобщены взаимодействие социальных макропроцессов и личностных черт, нарушающих защитный механизм социального субъекта используя объективную статистическую информацию. Поэтому был проведен ретроспективный анализ, чтобы представить субъективные оценки жизненно важных ценностей населения региона. Оригинальность исследования заключается в синтезе объективных тенденций глобализации и региональной специфики российского приграничного региона.

Ключевые слова: *человеческий капитал, воспроизводство человеческого капитала, инвестиции в человеческий капитал*

REPRODUCTION OF HUMAN CAPITAL IN THE ALTAI TERRITORY

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Abstract. *The scientific significance of the study is determined by the relevance of the level of reproduction of human capital. The specificity of reproduction determines the demographic security of the region and the country. The study aims to describe the social mechanisms of reproduction of demographic indicators of the Altai Territory, the dynamics of the birth rate, and the specificity of the reproductive behavior of young people in the region. The analysis of demographic and social indicators involves an*

interdisciplinary approach. We analyzed social theories of risk and safety, well-being, and the self-preservation reserve of the population. These theories are the basis for assessing and forecasting the depopulation in Russia at the regional level. Moreover, we used the concept of integrative social vulnerability. One can employ the proposed concept in optimizing social state control of the security policy. The study presents scientifically grounded data on economic, institutional, social, psychological, and behavioral determinants that identify the motivation of different social and age groups of the region's population, increasing the duration of an active and healthy lifestyle. Furthermore, we described the mechanism of socio-demographic interaction, including the systemic functioning in the context of social security. The integrative concept of social vulnerability determines the novelty of the results obtained. In addition, we summarized the interaction of social macro processes and personality traits that violate the protective mechanism of a social subject using objective statistical information. Therefore, we carried out a retrospective analysis to present subjective assessments of vital values of the region's population. The study's originality lies in synthesizing the objective globalization trends and regional specifics of the Russian border region.

Keywords: *human capital, reproduction of human capital, investment in human capital*

Introduction. Current scientific knowledge provides a diverse understanding of human capital. However, T. Schultz emphasized human capital as a separate institution for scientific analysis. Furthermore, G. Becker identified the basic theoretical premises of human capital. According to G. Becker, human capital is a set of knowledge, skills, and competencies of a social subject. Investments in human capital include education, professional experience, and the protection of people's health and life, promoting social and educational mobility, including the search for new information. These investments are aimed at improving the quality of human capital and increasing financial and in-kind income.

In the context of G. Becker's research, human capital includes specific and common components. The specific component is relevant for a particular enterprise. The common component is essential for various enterprises of this level. The essence of this concept is that a specific component of human capital is beneficial in the economic system in which it was acquired. In contrast, the common component of human capital can generate income in other economic systems of a similar level [3].

According to S. Fischer's approach, human capital means the ability of a person to generate income. Human capital in this context is a combination of innate abilities, talent, education, and acquired qualifications. A similar concept to human potential is the term "human resources." This term

underlies a new resource approach, forming company, region, and country success [4]. The essence of this approach is that the optimal management of human potential allows us to turn employees' competencies into tools for the growth and development of the organization, strengthening their assets. The quantitative evaluation of human capital was first undertaken by the English researcher W. Petty. By human capital, he understood the subject and their abilities, significant competencies, and the cost of educational services to diagnose and support gifted people. At the same time, W. Petty called for an increase in government spending on education for socially unprotected segments of the population. The representative of economic theory, A. Smith, considered the human potential to be the essential part of total wealth [5]. The scientists indicated the only employable population of the country. According to Kapelyushnikov's approach, human capital includes physical and mental potential [12].

Braudel identified limitations to the functioning of human potential, including a low level of initial physical potential [4]. According to D. Didenko's approach, the stability and growth of the economies of developing countries are primarily determined by the optimal functioning of the country's human potential [6]. The post-industrial development of society has accelerated the scientific formalization of various theoretical approaches to the phenomenon of human capital. The differentiated components of human capital were considered by E. Denison, F. Machlup, J. Mintser, and other scientists. The basic foundations in the form of an individual's innate abilities are the fundamental issue for evaluating human capital, the potential of which can be increased through targeted investment. Therefore, we agreed with national scientists, identifying human capital as a complex of innate abilities, including health, motives, interests, and increased cultural potential due to investments and determining the growth of a particular enterprise [7]. However, ideas about the structure and types of human capital presented in current scientific discourse are controversial. The available classifications of human capital differ in the incomplete description of individual and national human capital. However, researchers distinguish individual, collective, and social or national human capital. Individual human capital includes the following components: education, intelligence, health, labor activity, readiness for entrepreneurship, cultural and moral level of the individual's development. Collective human capital combines organizational, structural, client, and social components. Social (national) human capital includes the health of the nation, the viability of the nation, the level of national education, personnel-value, moral, innovation, ideological, and intellectual components. The primary types of human capital are health, education, and work. The interdependence of human capital is manifested in the decreased effectiveness of individual

human capital, leading to a decrease in the value of structural and organizational client capital. Nevertheless, one should emphasize that the functionality of national human capital cannot result from a simple combination of collective and individual human capital. Social human capital is a natural result of complex and systemic interaction and functioning of human capital at the individual and collective levels. In addition, with the most effective implementation of these types of capital, one can observe significant synergy for the entire nation, including individual subjects of the country's economy. The ambiguity of the complex assessment of human capital is due to the interdependence of human capital units and knowledge, skills, and abilities that cannot act outside the employee of the enterprise. Despite a significant number of methodological approaches to assess human capital, we cannot emphasize a universal and comprehensive system of indicators. The reliability of human capital estimation regarding an enterprise and a country or nation is of particular scientific significance. However, human capital indicators contain quantitative and qualitative aspects, including the investment in human capital. The quantitative aspect is determined by the average number of enterprise employees, depending on the age of personnel, educational structure, and average work experience in the specialty. In addition, this indicator can vary depending on the staff turnover and truancy due to the professional and qualification structure. Investments in human capital will include major investments in staff in the form of salaries and other retention costs. Significant investment components are training, retraining, and motivating costs, including scientific consultants' involvement and stimulating innovation. The growth of enterprise costs for healthcare is a primary indirect component of investing in collective human capital, including the following features: a medical examination of staff, effective implementation of labor safety, motivation of staff to a healthy lifestyle, and increasing the efficiency of self-preserving behavior [1]. Nowadays, the socially significant characteristics of the Russian human capital are the country's population, the quantitative and qualitative indicators of the working-age population, the specifics of the professional and qualification structure, the educational level, and the quality of citizens' life. Despite the relevance of the human capital issues, highlighting the intellectual component for the development of knowledge-intensive industries, the implementation of these priorities in current Russian society is being declared. One should use new theoretical approaches based on analyzing human capital within global trends related to production intellectualization in modern practice [11]. Modern national economists have identified the dominant role of human capital for the relevant development of the socio-economic structure of Russian society.

Methodology. The research methodology is based on analyzing the peculiarities of the mutual influence of demographic and social population indicators in modern regional Russian society. We implemented an interdisciplinary approach using current demography, sociology, and psychology knowledge. Moreover, we presented social theories of risk and safety, well-being, self-preservation reserve of the population. In addition, we involved the “Concept of integrative social vulnerability.” This concept allowed us to assess and predict the process of population depopulation at the regional level. During the research, we used the following methods: modeling, extrapolation, retrospective analysis, social forecasting, sociological survey, psychological diagnostics, and statistical analysis. The study sample consisted of 500 people.

Results and Discussion. The Altai Territory has been in the midst of a demographic crisis for a long time. This situation is characterized by a rapid depopulation of the population. Furthermore, we revealed the prevalence of mortality over birth in the region and identified a significant migration outflow of the population. One of the crucial issues in the region is a pronounced predominance of the elderly and old population in the general structure of the region. The specificity of the demographic situation in the region determines the insufficient level of demographic security. In current Russian society, demographic issues are among the significant features and include the nation’s extinction due to the excess of death rate over the birth rate, as in the countries of demographic “winter” (e.g., Germany). The problem is complex. One can determine a demographic catastrophe and a civilizational challenge to the peoples of Russia and the very future of the country. Since 2010, the annual natural loss in Russia has exceeded 1,000,000 people, and by 2025 this indicator can double. The described tendencies are intensifying in regional societies with a low socio-economic level of development. The Altai Territory is a region with reduced indicators. The primary demographic issue of the Altai Territory is the natural decline in the population, the excess of death rate over the birth rate. Mortality rates in 2018 exceeded the birth rate by 9,752 people. In 2019, the death rate exceeded the birth rate by 11,667 people. The birth rate in 2019 decreased by 2374 people. In 2018, the number of births in the Altai Territory was the lowest in the Siberian Federal District. The presence of social determinants characterizes these trends. The significance of objective processes of reducing the region’s residents’ quality of life and health is high. However, the subjective components of self-preserving behavior play a significant role. The specific attitude towards essential values is critical. However, it is crucial to study the mechanisms of the exceeded population mortality from socially dangerous, autoaggressive, and suicidal forms of behavior. According to

statistics, in 2019, mortality from unnatural external causes (homicide, suicide, poisoning, auticides) took third place in the structure of the region's population.

Analysis of statistical data revealed that from 2002–2010, the region's population reduced by more than 7%. This indicator exceeded the indicators of subjects of the Siberian Federal District [9]. The discrepancy between the population indicators according to the current registration and the results of the population census was 64 thousand people. At the same time, the migration loss from the region is one of the highest indicators in the country. Nowadays, the identified trends continue to intensify. Thus, we present a hypothetical integrative model of social determinants of demographic processes in a regional society based on a comprehensive analysis of human capital in the Altai Territory. The model includes the primary factors and conditions for the spread of negative life practices of behavior.

One of the fundamental aspects of the reproduction of human capital is the birth rate in the region. We analyzed the dynamics of the birth rate in the Altai Territory in 2000–2017. In the Altai Territory, from 2000 to 2012, there was a positive trend in the birth rate growth. However, from 2012 to the present, there has been a systematic decrease in the number of births in the region, according to statistics for the first eight months. In 2020, 13,222 newborns were born in the region, which is 1,280 people less than in the same period in 2019. Consequently, one can identify the tendency of a large-scale decline in the birth rate in the region. According to experts, despite the negative trends, several positive qualitative changes have been recorded in the region due to the implementation of the national project "Demography." In the fertility structure, the number of children born first, as well as third and subsequent ones, has increased. A negative trend was the decline in the proportion of second-born children. At the present stage of developing demographic and social sciences, fertility is one of the primary determinants of reproduction in any regional society. Nevertheless, a systematic analysis of the structure, level, and dynamics of fertility will allow us to identify and predict the specifics of endogenous demographic conditions for changes in the age and gender structure of the Altai Territory. A characteristic trend for Russia and the Altai Territory is the process of declining birth rates. However, a retrospective analysis indicates complex and ambiguous dynamics. According to demographic records, in 1990, about 34,000 children were born in the region, which was a historical maximum for the last 30 years of study. The last decades have been designated by "a rapid drop in the birth rate of children, regardless of any military actions" [9]. According to the rating of the constituent entities of the Russian Federation in terms of the total fertility rate, in 2017, the Altai Territory took the 52nd place with an indicator of 10.8

children born per 1000 people per year. The study of theoretical sources and secondary analysis of previous studies allowed us to formulate conclusions about negative forecast trends. Currently, one can indicate the delayed family formation by modern youth. However, this feature leads to a reduction in the childbearing period. Therefore, we identified a decrease in the possibility of having subsequent children. For example, in 2019, a decrease in having a second child in families was recorded. Moreover, we revealed a high level of abortion prevalence, which is traditional for Russia. The country ranked 4th in the world in 2017 in terms of the number of abortions. Subsequently, we revealed the tendencies of postponing the birth of children in the future. The deterioration of the reproductive health of future parents and problems with the ability to have children were recorded. The phenomenon of “childfree” people is spreading in the region. In addition, the increasing imbalance between the female and male population will reduce the number of childbearing in the province.

However, this imbalance will increase. An increased number of women who have overcome the reproductive age has been recorded in the region. The identified trends are the primary peculiarities of modern times and are registered in most economically developed and developing countries, indicating objective global trends. The forecast of the birth rate depends on the analysis of the reproductive attitudes of young people. According to modern Russian sociological research, most male and female young people are set up for a two-child family model. This aspect does not contribute to the growth of the Russian population. The additional aspects of the reproductive behavior of young people are associated with the early onset of sexual activity, a high frequency of changing sexual partners, and the choice of alternative forms of partner relationships. These aspects worsen the state of young people’s reproductive health and do not optimize the region’s birth rate growth. The social conditionality of abortions increases lies in the low socio-economic standard of living and the young age of potential parents. The analysis of the interrelations of social factors with reproductive attitudes allowed us to determine the most relevant aspects: the marital status of a young person ($p=0.05$); the type of family in which a young person lives ($p=0.001$); the level of material life ($p=0.001$); the level of personal security ($p=0.05$). Most of the young people aimed at having one child in their future family. However, there must be more than three children in the family for the reproduction of Russian society. About half of the surveyed young people evaluate their reproductive health as average. However, it is crucial to emphasize the advantages and disadvantages of this aspect. The high readiness of young people to realize life risks has a negative impact on the reproductive attitudes of young people. A tolerant attitude to sexual

relationships outside of marriage has been revealed. A quarter of young respondents have a tolerant attitude to divorce. Every tenth young person admits the probability of abortions. These aspects have a negative impact on the reproductive health of young people. The age of first sexual intercourse is an essential indicator of reproductive attitudes. Thus, in the Altai Territory, more than half of the surveyed young people (54%) had sexual relations before the age of 18, which can adversely affect the reproductive health of young people in the future. One of the critical components of reproductive attitudes (reproductive health) is the use of contraceptives. Only a quarter of young people implement safe sexual behavior. Most young people tend to have sexual risk, deteriorating their future reproductive health. The willingness of young people to have sex with a casual partner increases reproductive disorders, an insufficient level of readiness to use contraceptives. These trends increase the reproductive risks of young people. In addition, material income primarily determines a person's desire to have children in the future. Future financial opportunities will determine the well-being of the family. Strategic improvement of the reproductive health of young people in the Altai Territory should be based on the implementation of programs for the formation of responsible reproductive behavior. Therefore, it is necessary to expand medical and social advisory services for the region's younger generation.

However, we identified social activity and performance due to the social context of human capital development. Within the sociological approach, the phenomenon of "human potential" is compared with the concept of social capital. Therefore, we emphasized human capital as a broad concept. This term includes a variety of structural components of society reproduction [8].

In the context of the sociological theories of M. Weber, G. Simmel, T. Parsons, and E. Durkheim, the concept of human capital is defined through the value of social life. Researchers consider morals, culture, beliefs, responsibility, and initiative in working conditions to be components of human capital [2]. The functionalist theory explains the phenomenon of human capital due to the growing social and economic stratification of society [5].

The social mechanism of human capital operates according to a dual model. The first model is an individual and includes the person's physical, socio-cultural, intellectual, and educational potential [5].

The second model is institutional. The proposed model describes the role of the primary social institutions in the development of human capital. This level provides the overall quality of the process. Several factors determine the specificity of human capital. We identified the common values in society and their ratings, the process of continuous professional

improvement of personnel, the degree of prestige and accessibility of higher education, the demand for higher education and highly qualified specialists. The specifics and conditions of upbringing, socialization, career activity, and individual motivation play a significant reproductive role. According to national researchers of human capital in Russia over the past decade, inequality in the primary spheres of life of the population has significantly worsened the dynamics of social development.

Furthermore, we revealed a negative correlation between the population's educational level and life expectancy in conditions of increasing socio-economic inequality [10]. These trends are being implemented in the Altai Territory.

Conclusions. The analysis of the study results, a secondary analysis of the study of human capital development in modern Russian society, allowed us to conclude that a stable trend of population decline has been observed in most territorial entities over the past decades of Russian society. We revealed the prevalence of mortality over birth rate. Moreover, we recorded a high percentage of preventable deaths and indicated the prevalence of socially related diseases. Furthermore, we revealed a significant level of unevenness and shortage of personnel, particularly in the knowledge-intensive sectors of the country's economy. However, these aspects indicate the crisis state of human capital in the region.

Experts noticed contradictions between the needs of the labor market and the supply formed by secondary and higher professional education. The lack of qualified staff with an excess of unclaimed specialists, university graduates is a characteristic feature of the Russian labor market. According to official statistics, 16 % of the adult population of the country has higher education. At the same time, the functioning of an effective knowledge-based economy requires workers with a higher education level of more than 60 %. A significant factor in the development and improvement of human capital efficiency is the high standard of living of citizens, the numerical expression of the coefficient of the population's viability. This coefficient reflects the potential for preserving the nation's gene pool and possible intellectual development. According to researchers, in Russia, since 1992, this indicator was less than one, which defines the nation as unviable [13]. Therefore, one of the most popular and socially significant goals of the strategic development of Russian society should be conservation and effective nation reproduction.

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