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QUALITY OF LIFE IN THE ARCTIC REGIONS OF YAKUTIA

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Abstract

The specific factors of the development of the Republic of Sakha (Yakutia) as an arctic region include: extreme natural and climatic conditions, remoteness and inaccessibility, the focal character of settlement, low transport accessibility, lack of a unified energy system, high cost of living, and also high requirements to the reliability of life support systems, the need to comply with the natural balance of fragile ecosystems. The article presents the research of the characteristics of the quality of life of specialists working in the Arctic regions of Yakutia. The assessment of the quality of life and satisfaction with various aspects of life includes an assessment on such scales: work and professional career; Love, family and children; Material and housing conditions; Physical comfort, health, sleep and nutrition; Environmental assessment, climatic conditions and environmental situation and overall satisfaction with the quality of life. Subjective well-being of the individual is associated with the dominant mental state. The mental state characterizes the activity of a person in the process of activity, and also indicates the satisfaction of the actual needs of the individual. The evaluation of the mental state is important in stressful and extreme situations. New empirical knowledge about satisfaction with the quality of life, of specialists working in the Arctic regions of Yakutia has been obtained.

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Keywords: Quality of life, satisfaction, Arctic, Yakutia.



1. Introduction

According to «The development strategy of the Russian Federation Arctic zone and national security for the period up to 2020» there are: negative demographic processes in most of the Arctic regions of the Russian Federation; Outflow of labor resources, especially highly qualified specialists to the southern regions of Russia and abroad; An imbalance between the supply and demand for labor resources in a territorial and professional sense (shortage of workers in non professional occupations and engineering professions and an overabundance of unclaimed specialists, as well as people who do not have professional education); The low quality of life of the small indigenous peoples of the North, Siberia and the Far East of the Russian Federation living on the territory of the Arctic zone of the Russian Federation. The main task in the field of social and economic development of the country is to increase the attractiveness and the formation of a positive image of the northern regions for highly qualified specialists (Rudenko & Didenko, 2016, Prisyazhny, 2011).

2. Problem Statement

One of the urgent problems associated with the development of industry in the region is the lack of highly qualified personnel. Many industrial and mining enterprises solve personnel affairs by using the rotation method, a particular form of the labor process with a considerable distance from the place of employment to permanent residence of workers in areas with special climatic conditions (Radionovskaya, 2015).

An analysis of data of the Federal State Statistics Service for 2015 in the Republic of Sakha (Yakutia) on the need for specialists with higher and secondary vocational education shows that professionals in the field of housing and communal services, road maintenance and medical care are needed. A lack of motivation at work in the Far North and in the Arctic is associated with an insufficient level of psychological readiness, which consists of three components: cognitive, emotional and behavioral. The cognitive component includes a set of knowledge about working in the Arctic, living conditions, etc., the emotional component - an attitude to work in the Arctic, the behavioral component manifests itself in the selection and implementation of specific actions.

3. Research Questions

- 1.1. Assess the quality of life and satisfaction with its main aspects among the specialists working in the Arctic.
- 1.2. Describe the dominant mental state of the specialists working in arctic conditions.
- 1.3. Conduct a comparative analysis of satisfaction with the quality of life of the specialists, depending on sociodemographic characteristics.

4. Purpose of the Study

The purpose of the study is to research the quality of life of the specialists working in the Arctic.

5. Research Methods

Research was done by using a questionnaire for assessing the quality of life by Z.F. Dudchenko, a questionnaire for assessing the level of satisfaction with the quality of life by N.E. Vodopyanova and a questionnaire for determining the dominant mental state by L.V. Kulikov (1997). Statistical data processing was performed using the nonparametric test "Fischer angular transformation" and correlation analysis.

The object of the study was made by specialists working in industrial and mining enterprises, police, health, education and culture. Respondents work mainly on a rotational basis, they live temporarily or permanently in the village Ust-Nera of Oymyakonsky district and in the village Saskylah of Anabar district.

Characteristics of the sample:

The total sample was 208 people, 121 people in the Anabar district and 87 in the Oymyakonsky district. The gender composition of men is 59.6%, women 40.4%. According to the age structure, the sample of the study was divided into 4 age groups: 20-30 years (28.4%), 31-40 years (25.5%), 41-50 years (21.6%), 51-60 (17.3%) years. By ethnicity, 41.3% of all respondents were Yakuts, 32.7% Russians, 13% representatives of small ethnic groups and 13% other nationalities: Bulgarian, Khakass, Koreans, Kyrgyz, Ukrainians, Bashkirs, Kalmyks. By level of education: specialists with higher education accounted for 134 people (64.4%). These are doctors, teachers; Workers in the cultural and social sphere: librarians, theater directors, heads of dance clubs; Engineering and technical workers: engineers, geologists, mechanical engineers, mining engineers; Administrative and management personnel: chief engineers, school principals, chief geologists, department heads at enterprises; Servants of law: investigators, policemen; Employees in the financial sector: economists, accountants. Specialists with incomplete higher education 14 people (6.7%). Employees with secondary special education 43 people (20.7%), these are nurses, highly skilled workers, storekeepers, masters of boiler houses, welders, organizers of additional education, cooks. Specialists of the working professions 6 people, it amounted to 2.9% of the total sample.

6. Findings

The quality of life is understood as the ability of an individual to receive satisfaction from life and to assess the totality of his physical, mental and social well-being. Define demographic, social, psychological, physical and related to spiritual life parameters, which include the assessment of the most diverse aspects of life, associated not only with the state of health, but also with the conditions of life, work and environment (Savchenko & Golovina, 2006).

Comparative analysis has shown that the average score of satisfaction with the quality of work is higher for specialists working in the Anabar region (70.1 points), than for specialists working in Oymyakonsky district (38.7 p.). Indicators on the second scale - satisfaction with family life, specialists working in the two surveyed areas, assessed at an average level (Saskylakh - 38.8 p., Ust-Nera - 38.7 p.). In assessing the material and living conditions of living, specialists working in the Anabar region give an average rating (34.5 p.) of satisfaction, while the specialists working in Ust-Nera have a low score (29.5 p.). The next parameter included in the assessment of the quality of life is physical comfort, including satisfaction with health, nutrition, sleep and general well-being. The specialists working in the village Saskylah (41.6 p.) and in the village Ust-Nera (38.3 p.), the level of physical comfort is estimated average.

Assessment of the environment, climate and environmental situation also receives an average level of satisfaction, specialists working in the Anabar region - 25.9 p., and specialists working in the Oymyakonsky district - 21 p.

According to the results of the study, it was revealed that the overall satisfaction with the quality of life among specialists working in the Anabar region is medium (211 p.), whereas the specialists working in Oymyakon have low quality of life (199 p.). Table 01 presents the results on the levels of satisfaction with the quality of life: high, medium and low.

Table 01. Indicators on scales of assessment of the quality of life by districts

District	1. Assessment of work and professional activity		2. Assessment of family life		3. Assessment of material and housing conditions	
	Average point	Level of satisfaction	Average point	Level of satisfaction	Average point	Level of satisfaction
Anabar	70,1	average	38,8	average	34,5	average
Omyakon	38,9	low	38,7	average	29,5	average
District	4. Assessment of physical comfort		5. Environmental assessment		6. Overall quality of life assessment	
	Average point	Level of satisfaction	Average point	Level of satisfaction	Average point	Level of satisfaction
Anabar	41,6	average	25,9	average	211	average
Omyakon	38,3	average	21,0	average	199	average

In general, a sample of specialists working in the Arctic regions of the Republic of Sakha (Yakutia) is dominated by an average level of satisfaction with the quality of life (66.5%), a high level in 28.2% and a low level of satisfaction in 5.3%.

A high level of satisfaction among specialists is observed in the family assessment parameter (56.3%). Family support, satisfaction with family relationships, the recognition that work is important to the family, may be one of the important factors of work in the harsh Arctic conditions. Evaluation of job satisfaction and professional career occupies an average level of assessment in 56.3% of the respondents. Most specialists, above all, are not satisfied with environmental factors, climate and environmental conditions (24.3%).

If we consider the differences in the selected areas, a high estimate of the quality of life among specialists working in Anabar and Oymyakon, in general, statistically significant differences ($\chi^2=1.758$, at $p \leq 0.05$) was found. Differences were revealed in evaluation of the quality of family relations ($\chi^2=2.129$, at $p \leq 0.05$), assessment of material and housing conditions ($\chi^2=2.556$, at $p \leq 0.01$), assessment of overall physical well-being, satisfaction with food quality, sleep ($\chi^2=1.713$, at $p \leq 0.05$), as well as assessment of

environment, climate, ecology ($\chi^2=4.145$, at $p \leq 0.01$). In general, the indicators for the assessment level are "high" more from specialists working in Anabar. Perhaps this is due to the fact that in village Saskylakh of Anabarsky district live and work mainly natives of the Republic of Sakha (Yakutia), and in the village Ust-Nera of Oymyakonsky district specialists who came to work from other regions of Russia and CIS countries.

The correlation relationships between possible factors that affect on the quality of life scales were considered. On the satisfaction with the quality of family relations among specialists working in the north is influenced by the satisfaction with the relationships with the surrounding people ($r_s=0.230$, $p \leq 0.05$), the level of labor activity ($r_s=0.270$, $p \leq 0.01$) and in general, readiness to work in the Arctic ($r_s=0.255$, $p \leq 0.05$). The specialists, satisfied with the quality of material possibilities and housing conditions, are respectively satisfied with the level of wages ($r_s=0.263$, $p \leq 0.01$), relationships with colleagues ($r_s=0.226$, $p \leq 0.05$), level of labor activity ($r_s=0.311$, $p \leq 0.01$) and they have a high level of readiness to work in the Arctic ($r_s=0.302$, $p \leq 0.01$). The assessment of the quality of physical well-being is influenced by such factors as the position held ($r_s=0.196$, $p \leq 0.05$), the place of permanent residence ($r_s=0.206$, $p \leq 0.05$), the content of the work performed ($r_s=0.350$, $p \leq 0.01$), salary ($r_s=0.359$, $p \leq 0.01$), satisfaction with hygienic factors ($r_s=0.241$, $p \leq 0.01$), mutual relations with colleagues ($r_s=0.290$, $p \leq 0.01$), the level of labor activity ($r_s=0.463$, $p \leq 0.01$). The assessment of the quality of the environment depends on the place of permanent residence ($r_s=0.251$, $p \leq 0.01$), the content of the work performed ($r_s=0.287$, $p \leq 0.01$), the wage size ($r_s=0.215$, $p \leq 0.05$), hygienic factors ($r_s=0.436$, $p \leq 0.01$), relationships with colleagues ($r_s=0.385$, $p \leq 0.01$), career opportunities ($r_s=0.232$, $p \leq 0.05$), The level of labor activity ($r_s=0.377$, $p \leq 0.01$).

In general, the assessment of the quality of life of professionals working in the Arctic depends on relationships with surrounding people, colleagues, on the nature and content of the work performed, and on the degree of readiness to work in the Arctic. And the degree of readiness to work in arctic conditions is affected by the satisfaction with all parameters of the assessment of the quality of life.

The concept of "quality of life" also includes subjective parameters: emotional-cognitive assessments of a person's own life, its elements and the dominant mental state (Korneeva & Simonov, 2014; Andreenkova, 2010; Kulikov, 1997). To study the dominant mental state, was used a questionnaire by Kulikov (1997) which includes 57 questions.

The questionnaire includes scales: "active - passive attitude to life situation", "cheerfulness-despondency", "high-low vitality", "relaxedness-tension", "calmness-anxiety", "stability-instability of emotional vitality", "satisfaction - dissatisfaction with life in general (its course, process of self-realization)", "positive - negative image of oneself."

In general, it can be noted that all parameters of the psycho-emotional state of the respondents are at a low level (Figure 01).

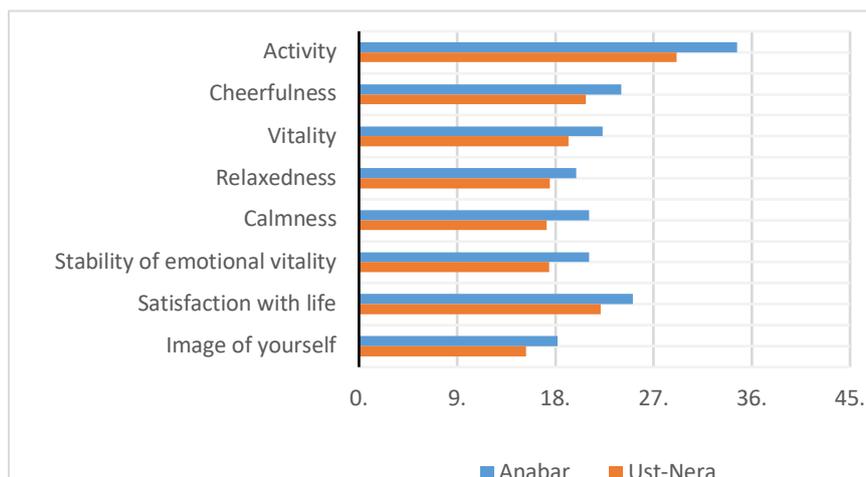


Figure 01. Indicators of respondents' dominant status

Obtained information is consistent with the data of other authors, according to which people working in the Arctic conditions tend to exhibit stressful reactions. So in the study of Zakharova, and Mikhailova, Timofeev (2010), were revealed the low indicators of viability, which indicates a decrease in vital activity and fatigability.

The demonstration of chronic stress are: a feeling of fatigue, a non-assemblage, a low working capacity, also characteristic by increased fatigue and an apathy. Additionally, the results indicate on the high costs of resources, which lead to exhaustion of physical, physiological and mental resources (Manichev & Astapenko, 2011; Egorova, Nafanailova, & Sidorova, 2017; Mikhailova & Nadkin, 2016; Neustroeva, 2015).

Summing up the data, we can say that respondents tend to experience unreasonable anxiety related to a wide range of life situations. A generalized anxiety contributes to the fact that many events and factors are perceived as a threat to well-being, a constant expectation of unfavorable events, a vague premonition of a future threat. The emotional background is reduced, which is manifested in a sad mood, despondency, the future is seen mainly in gloomy vitalities. Respondents note the mood swings, increased irritability, depression. The happening life events unfold against the backdrop of a general negative emotional vitality. In total, the respondents of both groups are not satisfied with life. Furthermore, this indicator points a low evaluation of personal success. As the survey results show, respondents of both groups experience a general dissatisfaction with life. Respondents are characterized by low self-esteem, i.e. self-esteem as a personal resource that allows you to cope with difficulties, does not have sufficient reserves. We can assume that respondents perceive themselves as losers.

Gender differences were revealed in the psycho-emotional state, women showed more stable and positive mental state than men ($p=0.01$). This can be explained by the fact that women are better adapted, have a more flexible psyche. Moreover, it was revealed that with an increase in the length of work, the activity indicators increase, the vitality rises, and the anxiety decreases. Perhaps adaptive processes improve the emotional background.

One of the reasons for the negative mental state is the objective factor - the conditions of work. The impact of working conditions, its features, including climate, has been repeatedly emphasized by researchers (Popova & Mikhaylova, 2016). Perhaps this is due to extreme situations of working conditions

in the North. Since under the influence of unfavorable environmental factors, the increasing role of activation components in the structure of the state is observed. Respondents are characterized by fatigue, non-assembly, apathy, passivity, low working capacity, by reduced ability to be active, expend an energy. The propensity to demonstrate asthenic reactions to emerging difficulties. The features of the subjective sensation of strength and energy have great importance for a more accurate definition of mental states. In a situation of new stress, people often experience the sensations of a rise in strength, but often the opposite picture is also observed: a sense of weakness. In addition, mobilization resources tend to decrease in the conditions of chronic stress experienced by the respondents of our study.

Mental states, as a fairly stable set of properties, affect on the efficiency of workers' activities and on the level of their working capacity. Reduced self-esteem, anxiety, passivity are undoubtedly reflected in the characteristics of work activity, on the style of activity in general. It can be assumed that in such situation workers have a lack of motivation at work, a low innovative potential and low involvement in the labor process. The systemic nature of mental states is also manifested in the fact that this is manifested in a decrease of the quality of cognitive functions (attention, memory, thinking, etc.), emotionally strong-willed qualities.

Therefore, the results of the research confirm the data of the studies of other authors, and indicate the negative dominant states among respondents. Work in extreme conditions occurs with a permanent connection of functional backup capabilities that require restoration and renewal. In addition, extreme factors contribute to the development of negative mental states, which can lead to disorganization of activities in general.

It can be assumed that long-term work in the Arctic can lead to professional burnout, and various kinds of professional deformations.

7. Conclusion

Thus, we can draw the following conclusions:

7.1. In general, the average level of satisfaction with quality of life is dominated among respondents, who are qualified specialists working in the Arctic areas of the Republic of Sakha (Yakutia). The general satisfaction with the quality of life of specialists working in the village Saskylah is average and in the village of Ust-Nera is low. The results of the assessment of satisfaction with the quality of life of respondents from the Arctic regions indicate that satisfaction with their family and relationships with loved ones is an important factor affecting the subjective satisfaction and psychological well-being of people working in the conditions of polar night and low temperatures;

7.2. Most of the interviewed specialists are satisfied with today's work and demonstrate high readiness to work in the Arctic. The basic motivator of work in the Arctic is the desire to improve their financial situation, working conditions, opportunities for professional and career growth, the diversity of work and the opportunity to improve their living conditions. The main demotivators of specialists are extreme climatic and geographical factors; High cost of air tickets, food and essential goods; Uncomfortable working and living conditions; Information hunger, lack of warm emotional communication; Amount of labor payment; Lack of special benefits;

7.3. Among respondents are dominated a decline, a decrease in intensity and pace of activity

associated with the decline, depletion of human resources, both personal and external. Probably, the respondents experience a stressful state. Respondents note the mood swings, increased irritability, heaviness. The life events unfold in the background of a general negative emotional vitality. Women show a more stable and positive mental state than men. When the respondents have more work experience in the North, they have more activity, their vitality rises and their anxiety decreases. Apparently, adaptation processes contribute to improving the emotional background.

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