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Motivation for professional activity in extreme conditions in Antarctica among winterers of different age groups

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Abstract. Professional activities in the extreme conditions of Antarctica and the Arctic are primarily associated with major risks to life and health, including psychological risks, for the personnel of polar stations. The relevance of this study is driven by the fact that in extreme forms of professional activity, such as expeditions to the Earth's poles, extreme sports, military operations, etc., one of the main criteria for selecting and forming effective and cohesive teams or groups is understanding the primary motives behind their actions. Motivated individuals tend to perform better and achieve greater success. The purpose of the study is to identify the leading motivations for professional activity in extreme conditions among winterers of Ukrainian Antarctic expeditions across different age groups. To achieve this purpose, methods of theoretical and empirical analysis, observation, generalisation, and systematisation of age groups were chosen. The paper defines and establishes an age-based classification of participants in annual expeditions to the Ukrainian Antarctic station "Academic Vernadsky". Through surveys, the study measures the level of motivation among individuals towards professional activities in Antarctica within three age groups: younger, middle-aged, and older. Three leading motives are identified: spiritual, social, and material. The analysis of the obtained data concerning the level of these leading motivational factors in polar station environments provides insights into the main reasons driving motivation for prolonged professional activity and helps in adapting to the extreme conditions of the surrounding environment. In addition, age-related differences in motivational processes among different age groups of winterers are presented, allowing for the formation of well-coordinated teams of polar expedition participants of varying age categories. The findings can be used in planning activities in long-term polar expeditions, in military and sports psychology

Keywords: adaptation; Antarctic expeditions; psychology of extreme activities; professional resilience; extreme sports

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INTRODUCTION

The motivation for professional activity is an ever-relevant question for youth choosing their career path, individuals looking to change or expand their professional capabilities, and human resources managers and work psychologists. Various forms of professional activity that involve risks to life and health are increasingly demanded by society, especially in the context of military operations in Ukraine. These professions and specialities include military, sports, and expedition-related fields, among others. There is still a deep lack of understanding of what exactly motivates people to voluntarily choose such activities. Understanding the dominant motivations among representatives of different age groups engaging in these professions is crucial for selecting expeditionary, sports, and military teams, organising their effective preparation and training. Professional activity in extreme conditions of Antarctica and the Arctic is associated with great risks to life and health, including psychological ones. At the Ukrainian Antarctic station “Academic Vernadsky”, people spend an extended period (12-13 months) in a risk zone of severe environmental conditions exacerbated by social and spatial isolation.

Each generation of people gradually expands the scope of those activities that were previously considered impossible or too difficult. This is often evident in extreme activities such as expeditions to the Earth's poles and sports (mountaineering, solo free climbing, BASE jumping, big wave surfing, marathon running, mountain skiing, Paralympic sports, etc.). As a result, there is a desire to understand why and how hazardous activities attract people and why they find pleasure in them, considering that these activities are generally perceived as unpleasant and risky.

American researcher G. Musumeci (2021) explores the question: “Why would you choose extreme sports?” He found that one of the most important aspects of the motivational component for enthusiasts of extreme sports that captivate people is the opportunity to experience something that makes them feel alive in an extraordinary way. This causes euphoria, described by such expressions as the feeling of “storm”, “excitement”, or an “adrenaline rush”.

E. Brymer *et al.* (2020) attempted to explain the neuropsychological reasons that drive people to seek extreme experiences. These studies found a correlation between the ability of certain activities to increase epinephrine secretion, the need to take risks, and a tendency to extreme experiences. The sense of imminent danger that these extreme sports eliminate activates survival mechanisms in response to stress to counteract the event through neurophysiological changes widely recognised in the scientific literature.

An example of professional activity in extreme conditions is long-term polar expeditions. The characteristics of the surrounding environment in both polar regions, the North and the South, are distinguished by strong winds, low temperatures, fog, monochromatic surroundings, and difficult access to research objects due to snowdrifts and ice. The ocean covered with ice blocks increases the sharpness of the challenge. For human life and professional

activities, such environments are unusual, unsuitable, and extreme (Lewandowski, 2022).

Antarctica has never had a native population, and the Arctic has only small groups of inhabitants. Both polar regions simultaneously attract and challenge people of different ages, including ambitious young researchers and experienced polar explorers. This particularly applies to permanently operating Antarctic stations where extreme weather conditions for professional activity are further complicated by prolonged social and spatial isolation within a small group. This contributes to the gradual development of progressive physical and psychological fatigue, interpersonal interaction difficulties, and the emergence of personality and social psychological disorders, negatively impacting the overall efficiency of expeditionary activities (Bakhmutova, 2020; 2021). Hence, it is important to understand why some individuals willingly choose such exceedingly challenging activities and what motivates them when facing the challenges of such professional activity for extended periods.

Ukrainian researchers O. Kokun & L. Bakhmutova (2021; 2022) highlight the personal qualities of Ukrainian winterers and how they change under the influence of the extreme environment and social-spatial isolation in their publications.

In a descriptive review titled “Human Psychophysiology in Antarctica”, Indian sports psychologist M. Nirwan (2022) discusses the correlation between human psychology and physiology in Antarctica. The review highlights changes in the psychophysiological state due to geomagnetic disturbances, disruptions in circadian rhythms caused by the “polar day and polar night” effect, decreased immunity due to the sterility of the surrounding environment, hypoxia, bone metabolic changes, acute mountain sickness, and stress biology during prolonged stays in Antarctica.

Ukrainian psychologists O. Miroshnychenko (2021) and O. Voznyuk (Miroshnychenko & Voznyuk, 2022) have thoroughly investigated the adaptation processes of Ukrainian winterers to the harsh conditions in Antarctica. A team of researchers, N. Chen *et al.* (2016), covered different levels of adaptation among Chinese winterers during their prolonged stays in Antarctica and Subantarctic.

Thus, researchers exploring human activity in extreme conditions in the Arctic and Antarctica note the negative impact on adaptive processes and psychological changes in personality resulting from the long-term performance of professional duties at polar stations.

The purpose of this study is to identify the leading motivations of people of different age groups in engaging in activities that require increased psychological and physical endurance, effort, persistence, and determination over an extended period (one year) where failure could be catastrophic – such as an expedition to the South Pole.

Objectives of the study:

1. Based on theoretical analysis, determine and establish age-based classification of participants in annual Antarctic expeditions to the UAS “Academic Vernadsky”.

2. Empirically investigate the features of the motivational component of readiness for professional activity among winterers of Ukrainian Antarctic expeditions (UAE) in the identified age groups.

LITERATURE REVIEW

The majority of psychological research results are primarily used in the development of selection methods for personnel in polar stations. Therefore, a considerable portion of researchers typically focus on medical, physiological, and psychophysiological adaptation to the surrounding environment, identifying stable individual-personality characteristics exhibited by those who visit or work in these extreme locations, and addressing emotional issues, including mood, life satisfaction, the surrounding environment, and relationships within the team.

Researchers established that most studies on motivation for risky activities have been conducted on extreme sports and activities involving physically trained individuals with sports skills and abilities. For instance, Bulgarian researchers G. Domuschieva-Rogleva and T. Iancheva (2017) studied polar expedition members of the 25th Bulgarian Antarctic Expedition on Livingston Island. The uniqueness of this expedition was that it included both researchers and sports alpinists. Psychologists investigated questions such as “What motivates people to engage in risky activities?” and “How are the needs for safety and the pursuit of thrill simultaneously satisfied?” This study complements the understanding of the role of safety needs and thrill-seeking as motivational forces underlying the desire to participate in challenging, complex, and highly risky missions in extreme environmental conditions.

S. Reiss (2000), a specialist in psychiatry and clinical psychology from Ohio University in the USA, creator of new diagnostic methods and studies in the areas of anxiety disorders, developmental disorders, intrinsic motivation, and the psychology of religion, discovered that there is no external motivation, only internal motivation. That is, a person is able to encourage oneself to take this or that action. Each person's motivational profile is as unique as fingerprints. By knowing their profile, individuals understand what and to what extent motivates them in life. Based on this, the author developed the “Theory of Motivational Sensitivity” and the methodology for determining basic motivators called Reiss Motivation Profile®, which is widely used in the USA, Europe, and Asia for leadership training and conflict resolution in organizations and large corporations, such as Comcast, Kraft, Chrysler, Siemens, and others.

Researchers from the USA, B.M. Ogles, and K.S. Masters (2003) seek to understand which specific motives drive people to participate in marathons, as it requires a considerable amount of strenuous training far exceeding the level necessary for maintaining health, well-being, physical activity, and prosperity. Preparing for a marathon is tedious, can be boring, monotonous, expensive, or lonely. Even if a runner passes the training tests in good psychological and physical shape, there is no guarantee of

satisfactory performance in the marathon itself (Ogles & Masters, 2003).

A comprehensive study on sports in extreme conditions at the North Pole was conducted by J.C. Lloyd and M.J. Apter (2006), when British polar explorer and athlete Pen Hadow documented his motivational states during a 64-day solo ski journey without resupply from Canada to the geographic North Pole. He began the expedition on March 17, 2003, pulling sledges weighing 265 pounds, and arrived on May 19. During the 850 hours of the journey, the researcher travelled on skis and on foot across the sea ice, occasionally swimming in a dry suit when encountering open water or thin ice. It took three attempts over the course of 15 years to successfully achieve this goal (Pen Hadow..., 2023). It was established that during the transition process, Pen Hadow used a wide range of motivational states, rather than relying on one main motive.

Researchers J.C. Lloyd and M.J. Apter (2006) identified eight motivational states in him:

1. Achievement: “I knew I was trying to achieve an important long-term goal. I wanted to feel successful.”
2. Satisfaction: “I knew I was trying to have a good time while enjoying the activity process. I wanted to feel the fullness of life in the moment.”
3. A sense of duty: “I knew I was trying to do what I had to do. I wanted to feel like I was fulfilling my obligations.”
4. Negativism (freedom): “I knew that I was trying to break away from the expectations or permissions of outsiders. I wanted to feel my own rebellion.”
5. Skill (strength): “I knew that I wanted to feel the mastery of a particular task or situation. I wanted a sense of control, both personally and through identification with the skills or power of others.”
6. Empathy (care): “I was aware that I was trying to establish close relationships with the people around me in my daily life. I wanted a sense of friendship and compassion.”
7. Individuality: “I knew that I was trying to do something unusual, something for my own benefit. I wanted to feel ‘on my feet’ and ‘self-fulfilled.’”
8. Transcendence: “I was aware that I was trying to help others. I wanted to feel part of something that was beyond me and contribute to the development of human capabilities. To demonstrate by example that what was once considered impossible becomes possible.”

In psychology, there are numerous studies on motivation in extreme activities, but there has been little attention given to the motivation of individuals of different ages who work for extended periods in extreme environmental conditions.

MATERIALS AND METHODS

Theoretical and empirical methods were used to conduct the study.

The study is based on theoretical approaches in contemporary Ukrainian developmental psychology proposed by Ya. Vasilyev (2009) and K. Krutii and L. Zdanevych (2017), which have been used to develop an age-based categorisation specific to UAE fieldworkers.

Over a ten-year period from 2011 to 2020, investigations were conducted using methods such as interviewing, testing, and surveying UAE members at the Ukrainian Antarctic Station (UAS) "Akademik Vernadsky".

Empirical methods were implemented using the Reiss Motivation Profile® (RMP) method. The RMP is a scientifically developed approach to studying the motivational sphere of an individual through a hierarchy of desires, which serves as the driving force behind any activity.

Steven Reiss (2000), the author of the RMP, identified fundamental motives that influence thoughts, emotions, and actions. They are universal, that is, inherent in every person. Yet people set them differently because they have their own priorities. This is the basis for the uniqueness of each individual. RMP® is a taxonomy of 16 basic human needs (motives):

1. Power – the desire to influence others. The satisfaction of this desire creates the joy of self-admiration, while the inability to satisfy it leads to a sense of helplessness. Power – primarily the desire to be directive and lead others.

2. Independence – the desire to rely on oneself. Satisfying this desire gives one the joy of personal freedom, while not satisfying it leads to a sense of dependence. Independence is primarily about doing something without the help of other people. Low scores on this scale indicate opposing desires associated with the joy of realising that a person can rely on the support of others.

3. Curiosity – the desire to learn. Satisfying this desire leads to feelings of contentment and admiration. Curiosity is associated with an intellectual lifestyle, with the desire to explore oneself and the surrounding world, and travel. People with developed curiosity are characterised by logical thinking and the truth of their intellectual arguments.

4. Acceptance – the desire for approval, the need to belong to certain social communities. Satisfying this desire gives one a sense of dignity, and not being able to satisfy it gives one a sense of insecurity.

5. Order – the desire to arrange and organise everything. Satisfying this desire gives one a sense of stability. It motivates a person to plan everything carefully, organise it, and make a schedule. Dissatisfaction is the opposite: it causes a feeling of instability, loss of control.

6. Conservation – the desire to accumulate and preserve. Fulfilling this desire brings a sense of preparedness for any course of events, a sense of collectedness. Conversely, not being able to fulfil this desire leads to a feeling of unpreparedness.

7. Honour – the concept of moral consciousness, dignity in relation to oneself and society. Satisfying this desire brings a sense of confidence, loyalty, and loyalty. The inability to satisfy it causes feelings of guilt and shame. Honour is most associated with the adoption of the social code of morality; a little less – with patriotism, traditions, and religion.

8. Idealism – putting the spiritual foundation as the basis of activity, such as pursuing knowledge, ideas, and emotions. The desire for idealism motivates a person to

participate in public life, pay attention to public events, and engage in charity work.

9. Social contacts – the desire to interact with other people. Fulfilling this desire brings pleasure, while its absence leads to feelings of loneliness. Social contacts are primarily a desire for social activity. This motif is also associated with the desire to have friends.

10. Family – the desire for interaction within marriage or blood relations, living together with mutual moral responsibility and mutual assistance, and raising children. Fulfilling this desire brings joy in relationships and parental love. Its dissatisfaction causes feelings of anxiety. The desire for a family motivates one to spend time with children and put their needs above one's own.

11. Social status is the prestige of belonging to a certain social community. Its presence brings a sense of importance, while its absence creates feelings of vulnerability. Primarily, social status relates to one's position in society and wealth, and to a lesser extent, fame, attention, and reputation.

12. The desire for competition is the desire to surpass and defeat someone in something, striving for better results or achievements than others. The presence of this desire indicates ambition and competitiveness. Being satisfied, this desire gives the joy of victory and elevation. The inability to satisfy it leads to feelings of sadness, disappointment, resentment, and anger.

13. Romantic relationships are relationships accompanied by feelings of love, passion, devotion, care, and affection. Satisfaction of this desire gives a feeling of euphoria, dissatisfaction – lust. The desire for a romantic relationship is closely related to a sense of beauty and harmony.

14. Satiation is the desire to satisfy various aspects of one's life: spiritual, emotional, social, material, etc. The primary basis for satisfying this desire is eating food, which leads to a feeling of satiety. The opposite is the feeling of hunger.

15. Physical activity is the desire for physical movement, which is fundamental to life. Fulfilling this desire brings a sense of physical and psychological well-being. Dissatisfaction leads to feelings of restlessness, discomfort, and weakness. This desire motivates a person to play sports.

16. Peace is the desire for emotional balance, absence of worries, anxieties, doubts, troubles, etc. Fulfilling this desire provides a sense of security, while dissatisfaction evokes fear. This desire motivates a person to worry about themselves, avoid fear, pain, and despair.

The RMP® questionnaire's motivations were generalised, and three main motives for activity in extreme Antarctic conditions were identified: spiritual (independence, curiosity, honour, idealism, family values), social (power, acceptance, order, social contact, desire for competition, social status), and material (conservation, peace, romantic relationships, satiation, physical activity). The data obtained were processed using statistical methods to determine the average M level.

The RMP® test consists of 128 questions. The test result reveals the hierarchy of the respondent's values, through the prism of which reality is perceived. RMP® is an innovative

and unique comprehensive psychological tool for investigating motivation, which meets all five scientific criteria of psychometric research: validity, reliability, standardisation, objectivity, and normalisation.

The study involved winterers who worked in year-round expeditions at the Ukrainian Antarctic Station “Academic Vernadsky”. Over ten research years, from 2011 to 2020, open offline surveys were conducted with the voluntary consent of the participants during the training process in conditions close to polar.

Each expedition involved from 10 to 13 people. The number of people depended on the volume of professional tasks. Some people participated several times over the course of 10 years. This is the reason for the sample of 71 subjects. Of these, 69 are male and 2 are female. The age of the subjects is from 22 to 64 years. All studies were conducted following the principles of Good Clinical Research Practice (GCP), 1995 (World Health Organization, 2005), Convention on Human Rights and Biomedicine (Council of Europe Convention..., 1997), and WMA Declaration of Helsinki – ethical principles for medical research involving human subjects, 1964 (2022). The interviewers adhered to ethical guidelines developed by reputable organisations for research involving human subjects, including the European Commission’s instructions on ethics and data protection (European Commission, 2021).

Before the study, a hypothesis was formulated: adaptation to the harsh conditions of Antarctica depends on the age characteristics of the wintering participants, as expeditions typically include people from different generations.

RESULTS AND DISCUSSION

Definition and establishment of age periodisation of participants in annual Antarctic expeditions to the UAS “Academic Vernadsky”

For the study, identification, and establishment of age-related patterns in the field of polar professional activities, data from Ukrainian psychological studies were analysed.

Ya. Vasilyev (2009) proposes the following age periodisation for individuals in adulthood: youth period – from 21 to 28 years old, emerging adulthood – 28-34 years old, adulthood – 35-45 years old, maturity – 46-55 years old, late maturity – 56-66 years old, elderly – 66-78 years old, and beyond – old age.

K. Krutii and L. Zdanevych (2017) proposed a different periodisation based on a socio-psychological approach. This periodisation is based on generational theory, according to which modern adults are divided into age groups depending on their years of birth:

- 1947-1967 – “children of winners” or “baby boomers”, born after World War II (in this study, these are winterers aged 46-62 years old);
- 1968-1987 – generation X, or “unknown generation” (winterers aged 35-45 years old);
- 1988-2000 – generation Y, or “Millennium generation” (winterers aged 22-34 years old).

Based on the theoretical analysis conducted, three age groups (I – younger, II – middle, and III – older) were tentatively established, which are characteristic for expeditionary teams, and the number of winterers participating in annual expeditions was distributed among these groups. The obtained results are presented in Table 1.

Table 1. Age periodisation of participants in annual Antarctic expeditions

| Age groups | Age limits (years) | Number of people who took part in the study |
|-------------|--------------------|---|
| Younger | 22-34 | 29 |
| Middle-aged | 35-45 | 30 |
| Older | 46-62 | 12 |

Empirical research on the motivational characteristics of winterers at the UAS based on the identified age groups

Based on the test results, the motivational priorities of each participant were determined, and an individual profile was constructed with sixteen motivations. Understanding and knowledge of these motivations are essential to help the expedition team form a shared vision and assist individuals in finding meaning in their professional activities under extreme conditions.

Visually, the results of the study are presented in the diagram (Fig. 1).

Determining the main motivations for professional activity in extreme conditions at the Antarctic station based on age groups is crucial during the final selection stage for the expedition team because candidates may have different motivations and interpersonal interaction styles. Often,

specialists responsible for selecting candidates for the expedition team do not adequately consider this fact, which may result in difficulties in assembling a cohesive team with shared or similar values, as individual sources of meaning, specific determinants of motivation, and personal preferences remain unknown at this stage.

The assessment of the level of the three identified main motivations provides generalized quantitative data, which helps understand the primary reasons motivating individuals to engage in long-term professional activities in extreme environmental conditions. Based on this, a harmonious team of individuals from different age categories can be assembled.

Comparing the three profiles of winterers from different age groups presented in Figure 1, some key results regarding the formation of expedition teams with representatives from different age groups have been obtained:

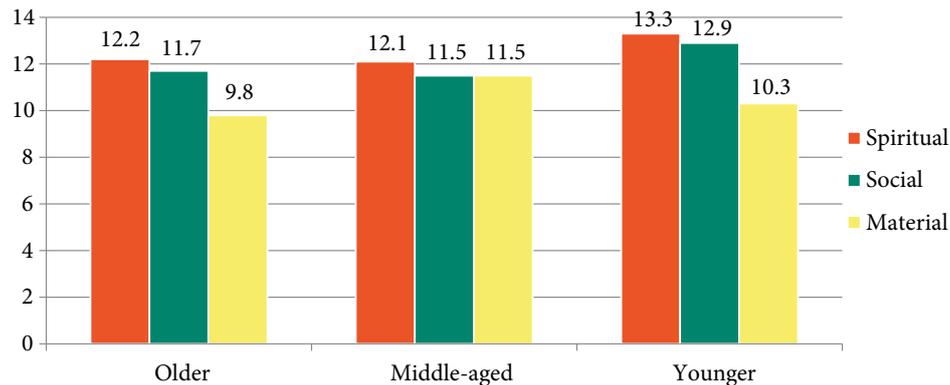


Figure 1. Level of main motivations for professional activity in extreme conditions at the Antarctic station by age groups

- The top motivation for all polar researchers is the spiritual motive of expeditionary activities (independence, curiosity, honour, idealism, family, and societal values). However, it is worth noting that the highest level ($M = 13.3$) is observed in the younger group, while the older and middle groups have approximately similar indicators. Expedition participants strive for excellence in everything they do, in all aspects of their life at the Antarctic station, including being worthy members of the Antarctic community. They take pride in performing their work to high standards while maintaining a desire for constant personal and collective improvement.

- The second-ranking motive is the social motive – the desire for power, acceptance in society, a longing for order, social contact, and competition. Interviews with winterers revealed that for many of them, the desire to prove to themselves and other members of society their involvement in social events, their own significance, and to feel society's need for them is vital. Understanding the value of each team member is ensured through collective support and constructive interpersonal interactions, which is why the level of social motive in the younger group is also the highest ($M = 12.9$).

- On the third place is the material motive – preservation, enrichment, personal peace, romantic relationships, and physical activity. This includes satisfying one's own material stability, family, and organisation. For representatives of the middle age group, this motive shares the second position with the social motive ($M = 11.5$).

This can be explained by the fact that individuals aged 35–45 years need material stability to support themselves, their families, and maintain stable functioning in their professional sphere.

Dynamics of the main indicators of winterers' motivation

The investigation of winterers' motivation for activities in the extreme conditions of Antarctica was conducted using the same methodology (RMP® questionnaire) after their return from the expedition to identify any changes in respondents' motivation. Thus, it became possible to compare two snapshots of the RMP® questionnaire, comparing the three identified motivation profiles in winterers from different age groups. The dynamics of changes regarding the examinations in the older, middle, and younger age groups are presented in Table 2 and Figures 2-4. The obtained data were also processed using statistical methods to determine the average level (M).

By analysing the data, conclusions can be drawn regarding the dynamics of indicators of motivational readiness based on the results of the RMP® questionnaire. In general, the indicators have not changed significantly: in all age groups, the indicators are within the average range. However, social motivation has become the first in the older group ($M = 12.7$), the middle group ($M = 13.0$), and overall among all winterers in all groups ($M = 13.1$).

The figures (Fig. 2-4) represent the indicators of manifestations of the main life activity motives among Ukrainian winterers in different age groups.

Table 2. Dynamics of indicators of main life activity motives in winterers of different age groups based on the results of the RMP® questionnaire

| Age groups | Main life activity motives | | | | | |
|-------------|----------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | spiritual | | social | | material | |
| | 1 snapshot | 2 snapshot | 1 snapshot | 2 snapshot | 1 snapshot | 2 snapshot |
| older | 12.2 ($\pm 2,4$) | 12.7 ($\pm 2,8$) | 11.7 ($\pm 2,6$) | 13.0 ($\pm 2,4$) | 9.8 ($\pm 3,5$) | 11.3 ($\pm 3,4$) |
| middle-aged | 12.1 ($\pm 2,8$) | 12.2 ($\pm 3,4$) | 11.5 ($\pm 3,2$) | 12.8 ($\pm 2,9$) | 11.5 ($\pm 3,3$) | 13.2 ($\pm 3,6$) |
| younger | 13.3 ($\pm 3,5$) | 14.0 ($\pm 2,4$) | 12.9 ($\pm 4,5$) | 13.3 ($\pm 3,4$) | 10.3 ($\pm 3,5$) | 12.9 ($\pm 3,3$) |
| Total | 12.5 | 13.0 | 12.0 | 13.1 | 10.5 | 11.8 |

Note: the mean square deviation (δ) is indicated in parentheses

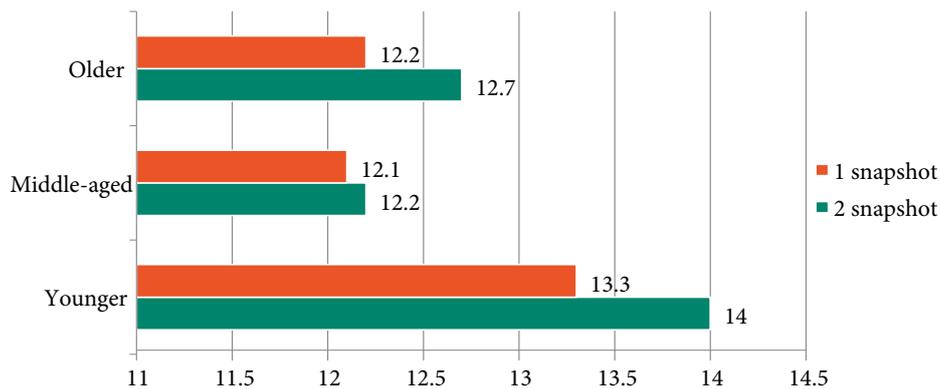


Figure 2. Dynamics of indicators of the manifestation of the spiritual motive of life activity in different age groups of winterers

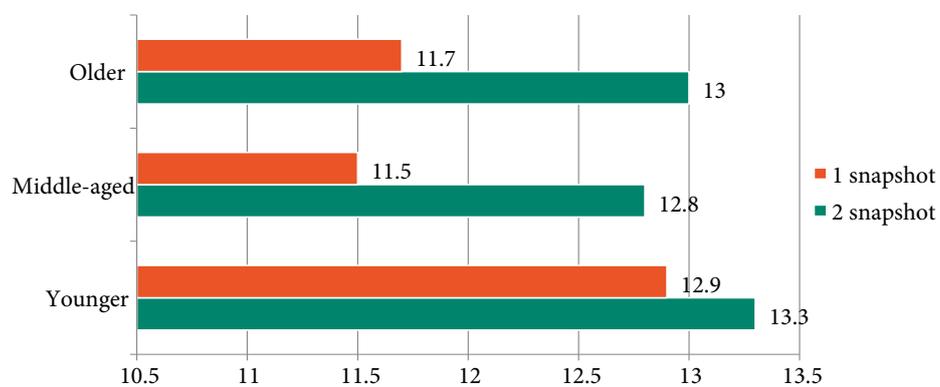


Figure 3. Dynamics of indicators of the manifestation of the social motive of life activity in different age groups of winterers

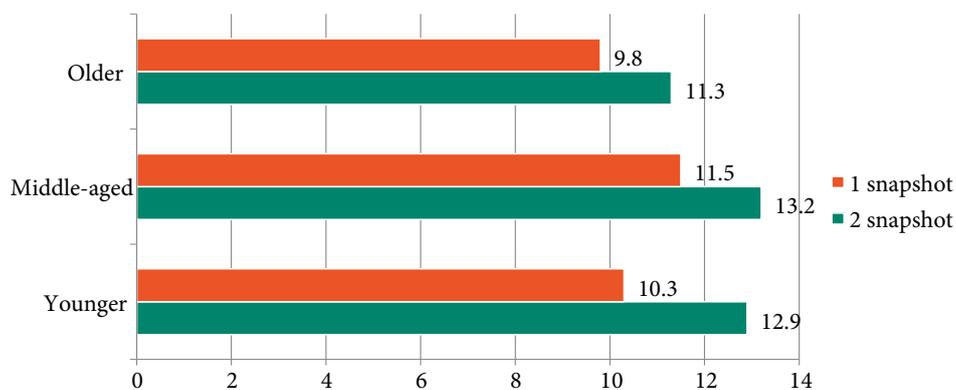


Figure 4. Dynamics of indicators of the manifestation of the material motive of life activity in different age groups of winterers

An increase in the social motive indicates that after spending a sufficient amount of time (over a year) in a closed collective, winterers begin to value good relationships even more. The importance of their actions for others increases, leading to a sense of responsibility and camaraderie.

In the second snapshot of the middle age group, the first motive becomes material. This indicates a certain re-thinking of the results of activities in extreme conditions for representatives of such an age when the need to support a family is significant.

Overall, analysing the results from the two snapshots of the RMP® questionnaire, it can be concluded that the best scores in the scales of spiritual, social, and basic motivations are demonstrated by representatives of the younger age group.

In the scientific literature, the issue of motivation for extreme activities is explored using various approaches and measurement methods. Polish scientist B. Olszewska (2018) examined the motivation of people engaged in extreme sports and tourism. She examines the motives of

different social groups in relation to types of activities, age, gender, and social status.

Y. Ouyang *et al.* (2020) investigate the motivations of children, youth, and students. Studies on middle-aged and elderly individuals are often related to motivation for physical activity among teachers and employees leading sedentary lifestyles. It has been shown that these social groups are the most vulnerable to civilisation-related illnesses resulting from a passive lifestyle. Physical activity in youth affects the quality of life in old age. All of the above raises questions about motivation for physical activity and extreme activities.

The motivation for physical activity was also addressed by O.I. Holovchenko *et al.* (2014). Their study, conducted with students from Sumy State Pedagogical University, showed that the desire to feel stronger and more adapted to challenging conditions motivates modern youth to engage in physical culture and sports.

Based on the findings presented in this paper, it is essential to focus on fostering spiritual motivations in athletes, such as love and respect for the environment (landscape, nature, weather conditions) to reduce negative emotions. Instilling a love for the sport itself, not just achieving high results, can neutralise feelings of helplessness and gloominess. This can be especially useful during long training periods and endurance competitions.

CONCLUSIONS

The motivation of different individuals in extreme conditions can be diverse and sometimes contradictory. Having conducted the diagnostics of the motivational component of Ukrainian polar explorers in extreme Antarctic expeditions through the prism of age differentiation, a comprehensive approach to investigating this issue has been proposed.

The scientific originality of this paper lies in determining the motivation for extreme professional activities in the

Antarctic among adults aged 22 to 62 years, divided into three age groups. The above explains the uniqueness of the results obtained.

Based on the theoretical analysis of existing age periodisations, the age periodisation of participants in annual Antarctic expeditions to the UAS "Academic Vernadsky" was determined and established. All study participants were divided into three age groups: younger (22-34 years), middle-aged (35-45 years) and older (46-62 years).

The features of the motivational component of readiness for professional activity among winterers at the UAE within the defined age groups were identified:

- the dominant motive for all UAE winterers is spiritual, which includes independence, curiosity, honour, idealism, and collective values;
- the second-place motive is social, characterised by the desire for power, acceptance in society, the pursuit of order, social interactions, and competition;
- the third-place motive is material, related to the satisfaction of personal material stability, family, and organisational needs.

The findings underscore the necessity of developing psychological motivation techniques for practical application in extreme activities. One of the areas of application of this study may be sports or training psychology. Sports psychologists working with coaches and athletes can utilise the findings to recognise a wide range of motivational states, increase self-awareness, and adjust behaviour to enhance the effectiveness of athletes' training processes across different age groups.

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CONFLICT OF INTEREST

None.

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Мотивація до професійної діяльності в екстремальних умовах Антарктики серед зимівників різних вікових груп

Анотація. Професійна діяльність в екстремальних умовах Антарктики і Арктики пов'язана насамперед з великими ризиками для життя та здоров'я, зокрема психологічного, персоналу полярних станцій. Актуальність дослідження зумовлено тим, що в екстремальних видах професійної діяльності, як-от: експедиції до полюсів Землі, екстремальний спорт, військова справа тощо – один з головних критеріїв відбору й формування ефективних та злагоджених колективів чи груп це розуміння основних мотивів діяльності, адже вмотивовані люди працюють краще і досягають більшого успіху. Мета дослідження – визначити провідні мотиви професійної діяльності в екстремальних умовах зимівників українських антарктичних експедицій у різних вікових групах. Для досягнення поставленої мети обрано методи теоретичного та емпіричного аналізу, спостереження, узагальнення та систематизації вікових груп. У статті визначено та встановлено вікову періодизацію учасників річних експедицій на Українську Антарктичну станцію «Академік Вернадський». Шляхом опитування досліджено рівень мотивації людей щодо професійної діяльності в Антарктиці в трьох вікових групах: молодшій, середній і старшій. Визначено три провідні мотиви: духовний, соціальний, матеріальний. Аналіз отриманих даних дослідження щодо рівня виділених провідних мотивів діяльності в умовах полярних станцій дає підстави усвідомити, які основні причини мотивації до тривалої професійної діяльності існують у українських зимівників і допомагають адаптуватися до екстремальних умов навколишнього середовища. Крім цього, представлено вікові відмінності у мотиваційних процесах в різних вікових групах зимівників. Це дає змогу підібрати злагоджену команду різних за віком категорій полярників. Отримані результати можуть застосовуватися в плануванні експедиційної діяльності в довготривалих полярних експедиціях, у військовій та спортивній психології

Ключові слова: адаптація; антарктичні експедиції; психологія екстремальної діяльності; професійна життєстійкість; екстремальні види спорту