

STRESS RESISTANCE AND PROFESSIONAL EXPERIENCE AS FACTORS
OF RISK PROPENSITY IN FUTURE SEAFARERSREZISTENȚA LA STRES ȘI EXPERIENȚA PROFESIONALĂ CA FACTORI
AI PREDISPOZIȚIEI LA RISC LA STUDENȚII NAVIGATORI

CZU: 159.94:37.091:378:626 (477)=111

DOI: 10.46728/pspj.2025.v47.i2.p70-74

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<https://orcid.org/0009-0005-4700-3799>**Abstract**

This article analyzes the risk-taking propensity of future maritime specialists based on their professional experience and stress tolerance. The study involved 40 students majoring in Marine and Inland Waterway Transport at the National Maritime University. A.G. Shmelev's methodology, S. Maddi's stress tolerance test, and a questionnaire were used; data processing was performed in SPSS and Excel. It was found that students without practical experience are more likely to take risks due to a lack of experience, while those with less experience are more likely to take risks due to overconfidence. High stress tolerance has a protective effect, reducing the likelihood of destructive behavior. The results can be used to improve seafarer training and develop psychological support programs.

Keywords: seafarers, risk propensity, stress resistance, professional experience, risky behavior.

Rezumat

Articolul analizează înclinația la risc a viitorilor specialiști din industria maritimă în funcție de experiența lor profesională și rezistența la stres. Studiul a implicat 40 de studenți la specializarea „Transport maritim și pe căi navigabile interioare” de la Universitatea Națională Maritimă din Odessa. Au fost utilizate metodologia lui A.G. Șmelev, testul de rezistență la stres al lui S. Maddi și un chestionar; datele au fost procesate în SPSS și Excel. S-a constatat că studenții fără practică sunt mai predispuși să își asume riscuri din cauza lipsei de experiență, iar studenții cu mai multă experiență - din cauza încrederii excesive în sine. Rezistența ridicată la stres îndeplinește o funcție protectoare, reducând probabilitatea riscului distructiv. Rezultatele pot fi utilizate pentru îmbunătățirea pregătirii navigatorilor și dezvoltarea de programe de sprijin psihologic.

Cuvinte-cheie: navigatori, înclinație la risc, rezistență la stres, experiență profesională, comportament riscant.

The relevance of research. The professional activity of seafarers is traditionally associated with a high level of risk due to the specifics of navigation, unpredictable weather conditions and the need for prompt decisions in stressful situations. It requires high physical and mental stability, as well as adequate risk assessment.

Modern socio-economic challenges, global crises and martial law in Ukraine increase the psychological burden on representatives of the maritime industry, increase their responsibility for the safety of the crew and the vessel and the need to act in extreme conditions. This actualizes the study of the relationship between pro-

fessional experience, stress resistance and risk propensity [3; 4; 5; 6].

Safety issues are regulated by international conventions, the Merchant Shipping Code of Ukraine and departmental documents, where the emphasis is on training seafarers to act in the established mode and reducing accidents [1].

Scientific research Sulima, Ye. M. (2020); Hryliuk, S. M., & Tiutiunnyk, L. L. (2021); Kohut, O. O. (2021); Lohvina, O. A., & Danchuk, Yu. P. (2021); Zhyhailo, N., & Sholubka, T. (2022); Naidonov, M. I., Sulima, Ye. M., & Naidonova, L. A. (2022); Ivaniuta, O. V., & Yanytska, O. Yu. (2025) confirms that risk propensity is an integral personality characteristic associated with anxiety, stress resistance, experience, and coping strategies [3; 8; 4; 5; 6; 7].

Thus, studying the characteristics of risk behavior of seafarers has important theoretical and practical significance and can contribute to improving the system of training and psychological support for specialists in the maritime industry.

The aim of the study: to investigate the characteristics of risk propensity in seafarers depending on their professional experience and level of stress resistance, to provide practical recommendations for optimizing the psychological training of future specialists in the maritime industry.

Research hypothesis: Research hypothesis: seafarers' risk propensity is determined by their level of stress resistance and professional experience. It is expected that a higher level of professional experience and established stress resistance is associated with a more balanced manifestation of risky behavior. Based on the obtained results, it will be possible to propose a Program for the development of optimal risk propensity and increased stress resistance in future specialists in the maritime industry.

The study was conducted at the Department of Practical Psychology of the Odessa National Maritime University in accordance with the fundamental scientific

and practical topic of the department, state registration number 0119U002263.

The contingent of subjects was recruited at the Odessa National Maritime University among students majoring in "Sea and Inland Water Transport" of full-time and part-time education. The total number of respondents was 40 people.

Research results. The students studied were divided into 3 groups based on their professional experience: the first group included students who had already completed industrial training on ships or in training centers, the total number of such respondents was 18 people, which is 45% of the total number of subjects. The second group included students who at the time of the study had only theoretical and laboratory training without experience in real-life risk conditions. The total number of such respondents was 14 people, or 35% of the sample. The third group included students who had participated in specialized training on shipping safety and psychological training, but did not have full-fledged experience. The total number of this category was 8 people, which corresponds to 20% of the total sample.

To determine the level of risk propensity and its structural features in student sailors of different groups according to professional experience, the Methodology for studying risk propensity by A. G. Shmelev [3] was used.

Indicators of the level of risk propensity in groups by professional experience are shown in Table 1.

To test the statistical significance of the relationship between the students' professional experience and their propensity for risky behavior, Pearson's criteria were used. The calculation results showed $\chi^2 = 3.05$ with $df = 4$, $p = 0.55$. Since the p value significantly exceeds the level $\alpha = 0.05$, the differences between the groups cannot be considered statistically significant. Calculation of the Cramer's V coefficient (0.20) indicates the presence of a relationship between experience and the level of

Table 1.

**Indicators of the level of risk propensity in student sailors
depending on professional experience**

Group	Number of respondents(n)	Low level (n, %)	Medium level(n, %)	High level (n, %)
Practical experience (vessels, simulators)	18	3 (16,7%)	9 (50%)	6 (33,3%)
Theoretical and lab. training	14	5 (35,7%)	7 (50%)	2 (14,3%)
Safety and psychological training	8	1 (12,5%)	5 (62,5%)	2 (25%)
Total	40	9 (22,5%)	21 (52,5%)	10 (25%)

risk propensity. Thus, descriptive statistics demonstrates certain differences in students' behavior depending on the presence of practical or theoretical experience. In our opinion, to obtain more pronounced results of mathematical and statistical analysis, it is necessary to increase the number of subjects, the need for further research.

Analysis of the results presented in Table 1 allows us to trace certain patterns in the manifestation of risk propensity among student sailors depending on their professional experience.

The first group, which included respondents with practical experience on ships or training centers, has the most balanced distribution of indicators. Thus, 3 students (16.7%) demonstrated a low level of risk propensity, 9 people (50%) – an average level, and 6 respondents (33.3%) revealed a high level. This indicates that real experience evenly forms a more adaptive attitude to risk in students. From a psychological point of view, practice on ships allows young specialists to understand that any decision in conditions of uncertainty has consequences, so most respondents

demonstrate a controlled, moderate readiness for risk. It should also be noted that the presence of a third of students with a high level indicates that practical experience can provoke a kind of “addiction to danger”, which reduces the criticality of the perception of risky situations and increases the likelihood of impulsive decisions.

Students were also studied according to the form of study: full-time or part-time. The results are presented in Table 2.

The distribution of results (Table 2) shows the specifics of risk propensity manifestation in students depending on the form of study.

The average level prevails among full-time students (53.6%), the high level is noted in 28.5%, the low level - in 17.9%. This is due to the active learning process and constant stress, which stimulates the readiness for quick decisions, but sometimes provokes impulsiveness.

The average level also prevails among part-time students (50%), however, the share with a low level is higher (33.3%), and a high level is less common (16.7%).

Table 2.

Indicators of the level of risk propensity of students depending on the form of study

Form of study	Number of respondents (n)	Low level (n, %)	Medium level (n, %)	High level (n, %)
Full-time	28	5 (17,9%)	15 (53,6%)	8 (28,5%)
Part-time	12	4 (33,3%)	6 (50%)	2 (16,7%)
Total	40	9 (22,5%)	21 (52,5%)	10 (25%)

This trend is explained by the combination of study and work, where discipline and responsibility form caution and a reduced desire for risk.

In general, most students of both forms of study demonstrate an average level (52.5%), which is considered adaptive. At the same time, full-time students are more likely to take high risks, and part-time students - to take low ones. Thus, the form of education is a factor influencing the manifestation of risk propensity: full-time students are more likely to act actively and take risks, while correspondence students are more cautious.

To clarify the features of the relationship between the level of stress resistance and the tendency to risky behavior in student sailors, the "Stress Resistance Test" method by S. Maddy (adapted by D. Leontiev and E. Rasskazova) was used. This method allows you to assess the three main components of stress resistance — involvement, control and risk-taking — and determine the integral level of psychological resilience of the individual.

As a result of data processing, all respondents were divided into three groups: 1 - with a high level of stress resistance — those who are able to constructively counteract stress, maintain emotional balance and make rational decisions in conditions of uncertainty; 2 - with an average level of stress resistance — students who cope with stress factors in most situations, but under conditions of excessive load may demonstrate signs of maladaptation; 3 - with a low level of stress resistance — respon-

dents who exhibit difficulties in mobilizing resources, increased anxiety, impulsive reactions and risky behavior in difficult situations. To test the statistical significance of the relationship between the level of stress resistance and the propensity for risky behavior of students, the Pearson χ^2 criterion was used. The calculation results showed $\chi^2 = 4.78$ with $df = 4$, $p = 0.31$. Additionally, the Cramer's V coefficient (0.24) was calculated, which indicates the presence of a relationship between the variables. The statistical analysis data indicate the presence of a certain trend: with an increase in stress resistance, the likelihood of constructive use of risk increases. Also, the need for further research with a large volume of empirical data.

The distribution of students by level of stress tolerance is presented in Table 3.

The data in Table 3 demonstrates the distribution of indicators of the level of risk propensity among students depending on the level of stress resistance. Thus, a high level of stress resistance is observed in 12 respondents, which is 30% of the total number of subjects. Among them, a low level of risk propensity was detected in only 1 student (8.3%), an average level - in 6 students (50%), and a high level - in 5 students (41.7%). The average level of stress resistance was recorded in 18 respondents, which is 45% of the sample. In this group, 4 students (22.2%) have a low level of risk propensity, 10 people (55.6%) have an average level, and only 4 respondents (22.2%) have a high level.

A low level of stress resistance was found in 10 respondents, which is 25%

Table 3.

Indicators of the level of risk propensity of students depending on the level of stress tolerance

Level of stress resistance	Number of respondents (n)	Low level (n, %)	Medium level (n, %)	High level (n, %)
High level	12	1 (8,3%)	6 (50%)	5 (41,7%)
Average level	18	4 (22,2%)	10 (55,6%)	4 (22,2%)
Low level	10	4 (40%)	5 (50%)	1 (10%)
Total	40	9 (22,5%)	21 (52,5%)	10 (25%)

of the total number of study participants. Among them, 4 students (40%) are characterized by a low level of risk propensity, 5 (50%) have an average level, and only 1 (10%) has a high level.

In general, it can be noted that among all 40 students, the majority (21 people or 52.5%) have an average level of risk propensity, 10 respondents (25%) have a high level, and 9 students (22.5%) have a low level.

The obtained results confirm the presence of a relationship between the level of stress resistance and the propensity for risky behavior: with an increase in stress resistance, the likelihood of rational use of risk increases and the prevalence of maladaptive manifestations decreases.

Conclusions. The study demonstrated that most student seafarers, regardless of training form, show a medium level of risk propensity, which can be considered

adaptive for future professional activity. Practical experience contributes to more balanced attitudes toward risk, though it may also provoke overconfidence. Specialized safety and psychological training is associated with an optimal profile dominated by moderate risk readiness. Full-time students are generally more prone to higher risk, while part-time students tend to be more cautious, reflecting their work experience. Stress resistance emerged as an important moderating factor: higher resilience supports controlled and constructive risk-taking, whereas low resilience is linked to extremes — avoidance or impulsivity. These findings highlight the need for targeted psychological programs aimed at developing optimal levels of risk propensity and strengthening stress resistance, which are essential for professional safety and efficiency in the maritime industry.

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Primit la redacție 12.09.2025
Acceptat spre publicare 15.11.2025