

# Personality and temperamental features vs. quality of life of Polish seafarers

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## ABSTRACT

*In Poland seafarers are a significantly large occupational group and their work is highly burdening and hazardous. The environmental, physical, chemical, biological and psychosocial factors have a great impact on their quality of work and life. This report examines their quality of life and the relationship between quality of life, personality and temperament was evaluated. A total of 300 Polish seafarers took part in this study. Their average age is 44. Incorporated methods used were: WHOQOL-BREF, a survey for people working at sea, questionnaires: NEO-FFI and PTS. The results have shown that their quality of life is quite high. Polish seafarers show neuroticism below average and high extraversion. They are open, agreeable and scrupulous. Their power of stimulation and inhibition processes is correct.*

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**Key words: quality of life, quality of working life, work at sea, personality, temperament**

## INTRODUCTION

### RESEARCH ON QUALITY OF LIFE RELATED TO WORK

The present research model on the quality of life of people employed at sea uses definitions of Quality of Working Life and Work-Related Quality as introduced by Elizur and Shye [1].

Undoubtedly, an important element of quality of life is the quality of work life (QWL). The QWL goes hand in hand with the quality of life, since the latter favours the improvement of quality of work. The QWL depends largely on the quality of organisation and management. Porter (cited in [2]) highlighted those factors that affect the quality of work as the following:

- The attitudes and needs of a person on an individual basis;
- Relating to the nature of work – the prize, the level of autonomy, the degree of diversification of activities;
- The variables of the working environment and organisation.

A very important aspect of research on quality of life has become a question of quality of working life. A study conducted in 17 countries has shown that the nature of work, institutional changes and pressures of employers have a very significant impact on the health of workers [3, 4]. The World Health Organisation (WHO) has recognised work-rela-

ted stressors as very important determinants of health and disease. Borg and Kristiansen (in [5]) conducted a study based on self-report scales, in which subjects indicate that the most stressful aspects of work are: lack of impact, low value of the work, lack of access to the relevant information, lack of social support, poor wages, high expectations and role conflict, role ambiguity and overload. These results are consistent with the Karasek's theory of stress at work [6]. This research has shown that these stressors reduce overall quality of life and psychosomatic symptoms, which in protracted conditions can lead to poor physical health and contribute to psychological discomfort and depression.

In other studies on the QWL, Cascio [7], Koonmee et al. [8] and Sirgy [9] underline that stress which depends on the QWL also meets the employer's need for employee's feeling of good well-being (well-being need). QWL depending on mood has been divided into two basic categories: high and low order [9]. According to this division, low order QWL addresses the health, safety, family and economic needs, while the higher-order QWL consists of such aspects as social needs, self-esteem, self-fulfillment, knowledge and aesthetics. Satisfaction and a positive sense of the quality of life in the workplace contribute to job satisfaction, commitment and



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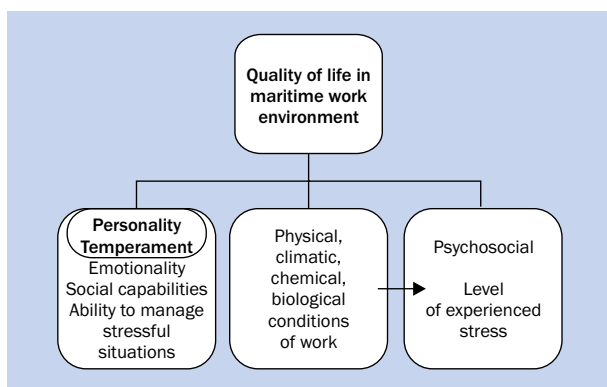
dedication to the company and high integration of the team of employees. Scientists are constantly trying to improve methods and tools to study the issue of quality of life at work. Van Laar [4, 10] attempted to create a questionnaire measuring the QWL dedicated to the health sector (Work Related Quality of Life). For this purpose he carried out the research on a group of 953 health workers in the United Kingdom. In 2008 a Cardiff University report of the research conducted between 2007 and 2008 among 150 employees of Cardiff University reported on the quality of their working life. These employees filled out a specially prepared set of questions that were analysed: Scale of Quality of Work Life, Scale of comfort at work, and HSE Stress at Work Scale. Description of the results is presented in the report by Van Laar et al. [4]. Such a large project and the amount of data obtained allowed a very detailed look at the subject of the quality of working life and its impact on the overall quality of life and functioning of the workers. The additional aspects of this research were studies to continue the improvement of methods and tools for measuring the above dimensions.

To date we have not found any literature on studies concerning the quality of life and work of people employed at sea. There is a need of its recognition and of further studies on QWL.

## AIM OF RESEARCH

The purpose of this study is to evaluate the quality of life through the study of the subjective ratings of seafarers of their perceived burden of stress at work and the impact of isolation on family and social life. In addition our goal is to identify the mood surrounding the performance of such a difficult profession and a job that requires a lot of physical and mental effort.

We aim to clarify the relationship between quality of life and selected personality traits and temperament, according to the model presented in Figure 1.



**Figure 1.** Factors affecting quality of life in maritime work environment

## RESEARCH TOOLS

In this study the following methods were applied:

- WHOQOL-BREF – a Polish version of the WHO questionnaire assessing the quality of life in 4 areas: physical, psychological, social, environmental;
- “Survey for people working at sea” – developed for the purposes of the research;
- NEO-FFI Questionnaire by P.T. Costa and R.R. McCrae – measuring the level of following personality traits: neuroticism, extraversion, openness to experience, agreeableness and scrupulosity;
- PTS Temperament Questionnaire – by J. Strelau, A. Angleitner and B. Zawadzki – specifying the strength of excitation and inhibition of mental processes, their mobility and balance between them.

Due to the validity of the method evaluating the quality of life – the WHOQOL-BREF – each subscale that falls within four main areas is described in more details below.

The physical scales (D1) components are: activities of daily living, dependence on drugs and treatment, energy and fatigue, mobility, pain and discomfort, rest and sleep and the ability to work. The (D2) psychological scale components are: appearance, negative feelings, positive feelings, self-esteem, spirituality, religion, personal faith, thinking, learning, memory and concentration. The components of scale responsible for social relations (D3) are: personal relationships, social support, sexual activity and the environment. The scale of the environment (D4) includes: financial resources, freedom, physical and psychological safety, health and health care (availability and quality), home environment, learning new information and skills, participation in leisure and recreation, physical environment (pollution, noise, climate), transport [11, 12].

The WHOQOL questionnaire as a tool was officially approved in 1993 by the WHO via the report: Study Protocol. WHO MNH7PSF/93.9 ([www.who.int](http://www.who.int)) [13].

The present study is devoted to assessing the quality of life for the seafarers – the occupational group that has an international character. The WHOQOL-BREF (Polish version) has been applied for the Polish seafarers. This method was used due to its universal character (there are versions in many languages) which will allow using the questionnaire in groups of seafarers from other countries and to objectively compare the results. This is possible thanks to very good and close cooperation of psychologists, sociologists and physicians affiliated under the International Maritime Health Association. The desire to conduct such research centres has already been reported for the promotion of health of people working at sea in Norway, Germany, Denmark, Spain, India and the Philippines. In all of those countries the number of people employed at sea is very high.

## SUBJECTS AND TEST PROCEDURE

The presented study is a part of a larger research conducted at the Laboratory of Occupational Psychology of the Institute of Maritime and Tropical Medicine in Gdynia – Medical University of Gdańsk, Poland.

The pilot study involved 300 seafarers employed in the Polish fleet and foreign flag vessels, who have applied for marine health certificate or were referred for psychological testing by insurance companies (American Club, Lloyd’s and others).

The research group consisted of men aged 19 to 64 years. Their average age was 43.5. The mean length of service at sea was 16.3 years. The study statistical analysis was performed on a group of n = 253. SPSS and Statistica packages were applied.

The characteristics of the group taken into account were such factors as: the level of education, position in the hierarchy of vessels and marital status (Tables 1, 2).

According to the data contained in Table 1. the largest group among the respondents was people with the secondary education (42%). Most seafarers were employed in the deck and engineering departments (39%). The largest groups among them were married in their first marriage (65%) (Table 2).

## RESULTS

### STAGE I

The first stage of the statistical analysis contained the calculation of the mean results for the different variables.

Results of the most significant variable – the quality of life measured by the WHOQOL-BREF are presented in the Figure 2.

Results of this analysis show the quality of life declared by the people working at sea as high. Polish seafarers gave the highest rates to their social relationships (16.48), then the environment (15.64) and psychological functioning (15.17). The physical domain gave the lowest rates (13.54).

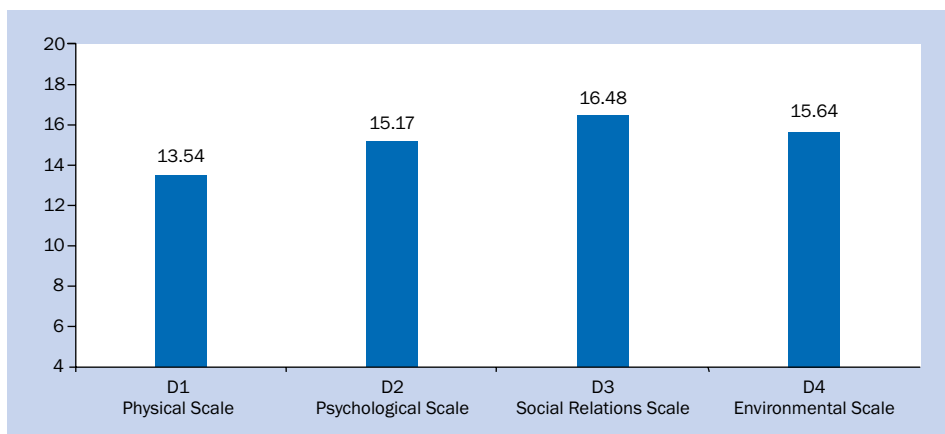


Figure 2. The average results obtained in the Questionnaire WHOQOL-BREF (n = 253). (Vertical axis represents the intensity of the chosen scale – min. value 4, max. value 20).

Table 1. Characteristic of the examined group – education and position (n = 300)

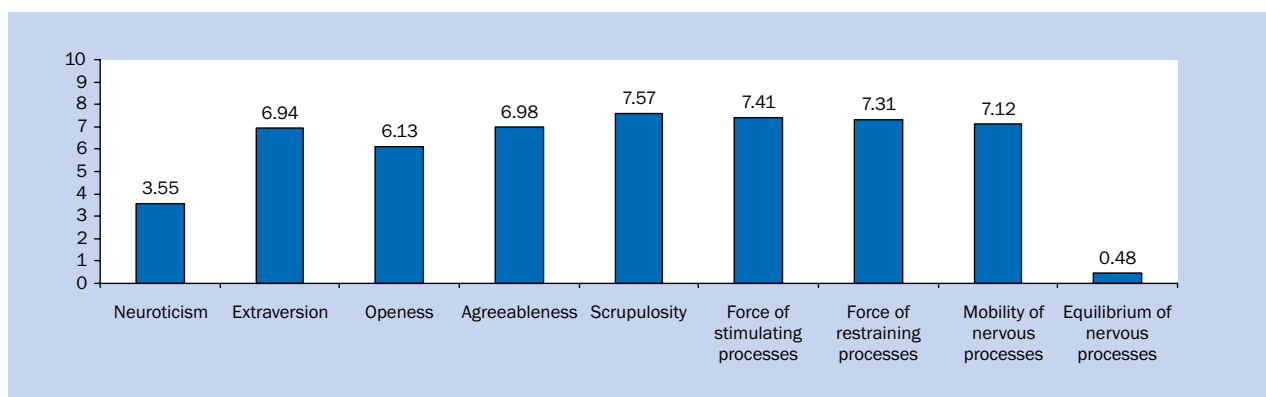
Education	
Elementary	2% (4 individuals)
Vocational	22% (56 individuals)
Secondary	42% (105 individuals)
Higher	34% (88 Individuals)
Position	
Captain	7% (17 individuals)
Chief Engineer	6% (16 individuals)
Chief Officer	10% (25 individuals)
Deck and engineering officers	39% (99 individuals)
Hotel service (cooks, stewards)	21% (52 individuals)
Deck	15% (37 individuals)
Other	2% (5 individuals)

Table 2. Characteristic of the examined group – marital status (n = 300)

Married/first marriage	65% (162 individuals)
Divorced/married in second marriage	6% (14 individuals)
Divorce	5% (13 individuals)
Informal relationship	2% (5 individuals)
Single	4% (10 individuals)
Widower	1% (2 individuals)
Unmarried	17% (42 individuals)

Figure 3 shows the results of the variables measured by NEO-FFI and the PTS.

Based on the results in the NEO-FFI Questionnaire it can be concluded that Polish seafarers represent the level of neuroticism slightly below average. Their extroversion is on a fairly high level. The seafarers represent proper



**Figure 3.** The average results obtained in the NEO-FFI and PTS Questionnaires (n = 253)

**Table 3.** Correlations between quality of life, selected personality/temperamental traits

Quality of life		NEU	EKS	OPE	AGR	SCR	FSP	FRP
D1 Physical health	R	-0.160	<b>0.317</b>	0.085	0.149	<b>0.236</b>	<b>0.243</b>	0.186
	P	0.013	0.000	0.189	0.021	0.000	0.000	0.004
	N	241	241	241	240	241	241	241
D2 Psychological health	R	<b>-0.217</b>	0.163	0.051	0.031	0.117	0.091	0.050
	P	0.001	0.011	0.429	0.629	0.071	0.159	0.443
	N	241	241	241	240	241	241	241
D3 Social relationships	R	<b>-0.244</b>	<b>0.215</b>	-0.032	0.147	0.165	0.188	0.106
	P	0.000	0.001	0.622	0.023	0.010	0.003	0.101
	N	241	241	241	240	241	241	241
D4 Environment	R	<b>-0.256</b>	<b>0.245</b>	0.161	<b>0.262</b>	<b>0.214</b>	0.165	0.169
	P	0.000	0.000	0.012	0.000	0.001	0.010	0.009
	N	241	241	241	240	241	241	241

openness to new experiences; their conscientiousness and agreeableness are above the average level.

The results obtained in PTS Questionnaire indicate that nervous processes of the seafarers within the central nervous system — stimulation and inhibition, and the mobility between them — are at the correct level.

## STAGE II

The second stage of the statistical analysis was to calculate the r-Pearson's correlation between the selected variables. The interpretation of these results allows to specify dependencies between the individual factors.

It has been analysed whether there is a relationship between the quality of life and chosen personality/temperamental traits (Table 3).

The results have shown that extraverted personality types correlate positively with the quality of life from the physical domains. Moreover, there is a negative relationship between

the level of neuroticism and quality of life. The results show that good health is accompanied by greater expansiveness. The higher level of neuroticism the worse quality of life.

## DISCUSSION AND CONCLUSIONS

Before this recapitulation it should be pointed out that all of the results are based on the subjective assessment of quality of life made by Polish seafarers. In the presented study no objective indicators were applied. The analysis is based strictly on the subjective indicators of quality of life. That was the aim of the research but at the same time it can be one of the reasons for criticism. Extending research on objective indicators is possible, however it requires the cooperation of doctors, psychologists and sociologists.

In summary, we find that the results of the study helped to clarify the level of life quality of people working at sea, which seems to be high. What is more, it is higher than expected. Given the nature of performed activities, difficult

conditions in which it takes place, the exposure to danger and high requirements for the seafarers, it leads to the assumption that their occupation is highly stressful and exhausting [14, 15]. The picturesque image of the seafarers work has been verified by the high demands of their job. Modern technology, the high pace of work and prolonged separation from family are no longer perceived in terms of maritime adventure and exploration of the world but as one of the ways to make money.

It can be stated that Polish sailors are well prepared for their work. The reason for this is efficient recruitment standards for the Maritime Academy. Moreover we have such predictors as: psychological predispositions, proper education and further training systems, good health care — along with a system for issuing health certificates required for work. Poles working on foreign flag ships try to choose those companies and such vessels which keep the adequate standards of labour and social conditions. They do not always succeed but in extreme situations and insult to the standards they can count on help and support of the Naval Contract and the organisation that is very active at sea, the ITF — International Transport Workers' Organisation.

## REFERENCES

1. Elizur D, Shye S. Quality of work life and its relation to quality of life. *Applied psychology. International Review* 1990; 39: 275–291.
2. Skrzypek E. Factors creating quality of life. (in Polish). Wydawnictwo UMCS, Lublin, Poland 2000.
3. Cox T, Griffiths A. The nature and measurement of work stress: theory and practice. In: Wilson JR, Corlett EN (eds.). *Evaluation of human work: a practical ergonomics methodology*. Taylor & Francis, London 1995.
4. Van Laar D, Edwards JA, Easton S. The Work-Related Quality of Life scale for healthcare workers. *J Advanced Nourishing* 2007; 60: 325–333.
5. Beach P, Andersen MB, Beach-Andersen G, Tonnesen S, Agnarsdottir E, Borg V. Work-related stressors, depression and quality of life in Danish managers. *European Psychiatry* 2005; 20: 318–325.
6. Karasek R, Theorell T. *Healthy work: stress, productivity and reconstruction of working life*. Basic Books, New York 1990.
7. Cascio WF. *Managing human resources: Productivity, quality of work life, profits*. Vol. 5. International Edition. Irwin McGraw-Hill, Boston, USA 1998.
8. Koonmee K, Singhapakdi A, Virakul B, Lee D. Ethics institutionalization, quality of work life, and employee job-related outcomes: a survey of human resource managers in Thailand. *J Business Res* 2010; 63: 20–26.
9. Sirgy MJ. *Handbook of quality-of-life research*. Kluwer Academic Publishers, Dordrecht, Netherlands 2001.
10. Van Laar D. *Improving quality of working life. Summary reports and data analysis of the Quality of Working Life Survey carried out December 2007 to January 2008*. Cardiff University, Cardiff, UK 2008.
11. Jaracz K. Chosen problem of research methodology on quality of life connected with well-being. (in Polish). In: Wołowicka L (ed.). *Quality of life in medical sciences* Wydawnictwo AM, Poznań, Poland 2001: 231–303.
12. Murphy B, Herman H, Hawthorne G, Pinzone T, Evert H. *Australian WHOQoL Instruments: user's manual and interpretation guide*. Australia Field Study Centre, Melbourne, Australia 2000.
13. WHO Quality of Life-Bref (WHOQOL-BREF): [www.who.int](http://www.who.int).
14. Allen P, Wallens B, Smith A. Fatigue in British fishermen. *Int Marit Health* 2010; 61: 154–158.
15. Leka S. Psychosocial hazards and seafarers health: priorities for research and practice. *Int Marit Health* 2004; 55: 137–154.