STATEMENT

By Assoc. Prof. Rositsa Hristova Chamova, MD, PhD

Department of Hygiene and Epidemiology

Faculty of Public Health, Medical University – Varna

Regarding: Dissertation for the acquisition of a scientific and educational degree "Doctor" in the field of higher education 7. "Health and sport", professional direction 7.1. "Medicine", scientific specialty "Hygiene (including labor, communal, school, radiation, etc.)".

Author: Dr. Galina Dimova Neykova-Sidorenko, part-time PhD student at the Department of Hygiene and Epidemiology, Faculty of Public Health at the University of Varna.

Dissertation topic: „Psychophysiological Assessment of Health and Work Ability Risks in Small and Medium-Sized Businesses“

Scientific supervisors: Prof. Teodora Dimitrova, MD, PhD

Assoc. Prof. Tsvetelina Tarpomanova, MD, PhD

By order No. R-109-301/ 28.08.2026 of the Rector of the Medical University - Varna, I was elected as a member of the Scientific Jury, and on the basis of Protocol No. 1/ 09.09.2026, I was appointed to prepare an opinion on the acquisition of educatioanal and scientific degree "Doctor" with candidate Dr. Galina Dimova Neykova-Sidorenko, part-time PhD student at the "Hygiene and Epidemiology" Department, Faculty of "Public Health" at the Medical University - Varna.

Procedure data

Dr Galina Dimova Neykova-Sidorenko was enrolled as a part-time PhD student in the doctoral programme “Hygiene (including Occupational, Communal, School, Radiation Hygiene, etc.)”, within Higher Education Field 7, “Healthcare and Sports”, and Professional Field 7.1, “Medicine”. Her dissertation topic is “Psychophysiological

Assessment of Health and Work Capacity Risks in Small and Medium-Sized Enterprises", under the supervision of Prof. Teodora Dimitrova, MD, PhD, in accordance with Order No. R-109-477/04.11.2020 issued by Prof. Valentin Ignatov, MD, PhD, Rector of the Medical University "Prof. Dr Paraskev Stoyanov" – Varna. Subsequently, Assoc. Prof. Tsvetelina Tarpomanova, MD, PhD, was appointed as a second supervisor.

Dr Sidorenko has successfully passed the doctoral qualifying examination and the foreign language examination. She has been discharged from the doctoral programme with the right to defend her dissertation, pursuant to Order No. R-109-301 dated 28 August 2026, issued by the Rector of the Medical University of Varna.

All administrative documents required for the procedure under the Development of Academic Staff in the Republic of Bulgaria Act, its implementing regulations, and the Regulations on the Development of Academic Staff at the Medical University of Varna have been submitted.

Brief Biographical Information

Dr Sidorenko was born in Yambol, Bulgaria, where she completed her secondary education at Vasil Levski High School. In 1995, she obtained a Master's degree in Medicine from the Medical University of Varna, Bulgaria.

Dr Sidorenko began her professional career in 1996 as a physician at the Transport Hospital in Burgas, where she worked until 1998. From 1 April 1998 to 1 July 2000, she worked in the Emergency Department in Burgas, followed by a position as a general practitioner in the same city from 1 July 2000 to 1 January 2002. From 1 January 2002 to 15 April 2015, she worked as a Medical Representative at GlaxoSmithKline Bulgaria. Between 1 July 2015 and 1 March 2022, she served as a Medical Science Representative specialising in respiratory diseases at AstraZeneca Bulgaria. Since 1 March 2022, she has held the position of Key Account Manager – Severe Asthma at AstraZeneca Bulgaria. In recognition of her professional achievements, Dr Sidorenko has received numerous awards and professional distinctions.

In 2024, Dr Sidorenko obtained a specialty in Occupational Medicine.

Dr Sidorenko speaks several languages, including English, Russian, and

Spanish.

General Characteristics of the Dissertation

The dissertation developed by Dr Galina Sidorenko comprises 186 pages and is illustrated with 68 tables and 23 figures. The reference list includes 134 sources.

The dissertation is well-balanced in structure and comprises the following sections: Literature Review (45 pages); Aim; Objectives; Materials and Methods (11 pages); Results and Discussion (103 pages); Conclusions and Recommendations (9 pages); and Contributions (2 pages).

Relevance of the Topic

The dissertation addresses a topical issue of pronounced scientific and practical significance: the psychophysiological assessment of health and work ability risks among employees in small and medium-sized businesses during the post-COVID period. In recent years, compelling evidence has accumulated regarding the impact of stress, particularly occupational stress, on individuals' work capacity and health. The modern working environment is characterized by rapid technological development, dynamic political and socioeconomic changes, and increasing uncertainty, which pose new challenges for organizations and employees alike. Intensifying competition in the labour market, the fast pace of work and communication, digitalization, social media, and the constant flow of information increase demands on both employers and employees, creating conditions for heightened stress exposure. Therefore, the study of stress in the occupational context is particularly important, as it has a substantial impact on both an individual's mental state and physiological functioning. The post-COVID period is characterised by marked changes in the working environment, social relationships and population lifestyles. The COVID-19 pandemic resulted in a sustained increase in perceived stress, anxiety, depressive symptoms, sleep disturbances and manifestations of occupational burnout. This created new requirements for occupational medicine and organisational practices aimed at preserving work ability and limiting psychophysiological risks.

Small and medium-sized enterprises are particularly vulnerable in this context. They constitute a major sector of the economy and make a substantial contribution to employment, innovation and economic resilience. At the same time, however, they

often have limited resources, poorly formalised mental health policies and more restricted opportunities to implement structured interventions for stress management and burnout prevention. This highlights the need for evidence-based models for the comprehensive assessment of work ability that integrate mental, psychophysiological, cognitive and organisational indicators.

The **Literature Review** is focused, comprehensive, and well-structured. The author demonstrates the ability to critically evaluate, synthesize, systematize, and interpret the scientific literature.

The Aim of the dissertation is clearly and precisely defined. The five research objectives are well formulated and are consistent with the stated aim.

The Methodology is comprehensive, described in detail, and consistent with the research objectives. Appropriate research methods have been selected to achieve the stated aim:

- *Documentary method*: an in-depth analysis of scientific publications and reports relevant to the subject of the dissertation.

- *Sociological method*: a questionnaire comprising items on anthropometric data, workplace factors and conditions, occupational activities, lifestyle, harmful habits, and dietary habits, as well as questionnaires designed to assess work capacity and selected parameters of mental health.

- *Physical examination and laboratory methods*:

Preventive medical examination conducted by an occupational medicine specialist, including occupational history, family medical history, physical examination, and electrocardiography (ECG);

Laboratory tests including haemoglobin, blood glucose, and blood lipid profile, as well as measurements of cortisol and alpha-amylase in saliva.

- *Statistical methods*:

Statistical grouping of data;

Descriptive statistical methods;

Interval estimation, including statistical significance and confidence intervals (CIs);

Graphical method;

Comparative analysis using the t-test, chi-square test, and Pearson correlation analysis;

Logistic regression models.

Results and Discussion constitute the main part of Chapter Three. Dr Sidorenko presents the sociodemographic and occupational characteristics of the study participants, who represent various economic sectors. This broadens the analytical scope of the study by enabling not only comparisons between two types of occupational activity but also an analysis of sector-specific differences in work capacity and mental health dynamics. Alongside the main sociodemographic characteristics, a range of behavioural and health-related factors are examined, including smoking, alcohol consumption, insomnia, physical activity, consumption of caffeinated beverages, and the presence of somatic diseases. The inclusion of these indicators is particularly important in the context of the present study, as it enables an analysis of the relationships between lifestyle, somatic vulnerability, mental health, and work capacity. The working conditions of the study groups are also analysed.

The results are illustrated with graphical representations of the statistically analysed data. The presentation of the research findings follows the stated research objectives. The limitations of the study are also discussed. The conclusions are appropriately formulated. They address the stated aim and objectives and follow logically from the results and statistical analyses. The recommendations are precise, clear, and practically applicable.

I approve the scientific contributions, which are divided into the following categories:

Scientific Contributions:

1. An integrated methodological model for the comprehensive psychophysiological assessment of work capacity has been applied, combining objective cognitive measures, psychomotor indicators, subjective assessments of functional status, and standardized psychometric instruments for assessing stress, anxiety, depression, burnout syndrome, and work ability.

2. Patterns in the dynamics of work capacity throughout the working day and working week have been identified, characterizing the processes of work adaptation, fatigue accumulation, and recovery, and identifying periods associated with an

increased risk of reduced performance.

3. The influence of psychosocial factors (perceived stress, depression, anxiety, and emotional exhaustion) on work capacity has been demonstrated, and their associations with cognitive and psychomotor indicators have been established.

4. Statistically significant differences in work capacity and mental health indicators have been identified according to the nature of the work, economic sector, sex, age, and length of professional experience. These findings expand existing knowledge of the influence of individual and organizational factors on occupational functioning.

5. For the first time, multivariate analysis (binary logistic regression) has demonstrated that the phases of work adaptation (at the beginning of the working week) and the end-of-week surge in performance (at the end of the working week) are governed by different independent mechanisms.

6. Methodological guidelines have been developed for the multivariate assessment of occupational risk, proposing an integrated approach combining objective cognitive and motor tests (CP, CT, and tremorometry), biomarkers (cortisol and salivary alpha-amylase [sAA]), and psychometric scales (PSS-10, WAI, and Zung/HADS) to accurately predict work capacity under real-world conditions. An important methodological caution for occupational medicine practice has also been highlighted: reliance solely on bivariate associations may lead to misleading risk assessments. Therefore, multivariate adjusted models are essential for identifying genuine organizational predictors.

Practical and Applied Contributions:

1. Practical guidelines have been proposed for the organizational management of work processes in small and medium-sized enterprises (SMEs), through the optimization of task allocation according to the identified periods of peak and reduced work capacity.

2. Measures to reduce psychophysiological workload have been proposed, including active breaks, job rotation, ergonomic improvements, and organizational interventions for activities requiring high levels of concentration and precision.

3. Recommendations have been provided for reducing occupational stress and

burnout syndrome by optimizing the balance between job demands and control, the effort–reward balance, and by promoting supportive leadership and social support within organizations.

4. A framework has been developed for the algorithm-based allocation of workload according to objectively identified phases of circadian and weekly work capacity.

5. Targeted occupational health prevention profiles have been developed, clearly defining two fundamentally different risk profiles for medical and biological monitoring in small and medium-sized enterprises (SMEs).

6. An integrated model for the periodic monitoring of mental health and work capacity has been recommended, enabling the early identification of adverse changes and the timely implementation of preventive measures. This model can also be used as a tool for assessing and managing psychophysiological risks in SMEs, with the aim of maintaining high levels of work capacity, productivity, and occupational safety.

The dissertation is written in good academic English, with precise and appropriate terminology. In terms of technical presentation, the dissertation complies with the established requirements, and the bibliography is comprehensive.

The Abstract of the dissertation accurately reflects the content of the dissertation. It comprises 54 standard pages and provides an accurate account of the dissertation's structure, content, scientific contributions, and related publications.

In connection with her dissertation, the doctoral candidate has presented three publications in the Journal of the Medical College – Varna, the journal Scripta Scientifica Salutis Publicae, and the Proceedings of the Scientific Conference "Knowledge, Science, Innovations, Technologies" 2025, held in Veliko Tarnovo.

In conclusion, the dissertation meets the requirements of the Development of Academic Staff in the Republic of Bulgaria Act. The work has been submitted in a complete and well-presented form.

The comprehensive and systematic analyses conducted provide opportunities for developing innovative approaches to improving and promoting public health. I consider the topic addressed by the doctoral candidate to be highly relevant and timely.

The dissertation has been developed in a thorough and scientifically sound manner, is well illustrated, and is presented in clear and professional academic language.

All these considerations provide grounds for **my positive evaluation** of the dissertation entitled “Psychophysiological Assessment of Health and Work Ability Risks in Small and Medium-Sized Businesses” and for casting my positive vote in favour of awarding Dr Galina Dimova Neykova-Sidorenko the educational and scientific degree of Doctor in Higher Education Field 7. “Healthcare and Sports”, Professional Field 7.1. “Medicine”, in the scientific speciality of “Hygiene (including Occupational, Communal, School, Radiation Hygiene, etc.)”.

Заличено на основание чл. 5, §1, б. „В“ от Регламент (ЕС) 2016/679

20.10.2026

Varna /**Assoc. Prof. Rositsa Hristova Chamova, MD, PhD**/