**To**
**The Chairperson of the Scientific Jury,**
**appointed by Order No. P-109-301/28.08.2026**
**of the Rector of Medical University "Prof. Dr. Paraskev Stoyanov" – Varna**

# REVIEW

by

**Prof. Stanislava Nikolaeva Harizanova, MD, PhD**

Head of the Department of Hygiene

Dean of the Faculty of Public Health, Medical University of Plovdiv

of

a doctoral dissertation for the award of the educational and scientific degree **"PhD"** in the field of higher education: **7. Health and Sports**, Professional field: **7.1. Medicine**, Scientific specialty: **Hygiene** (occupational, communal, school, radiation, etc.)

**Author:** Galina Dimova Neykova-Sidorenko, MD

**Department:** Hygiene and Epidemiology, Faculty of Public Health, Medical University "Prof. Dr. Paraskev Stoyanov" – Varna

**Title:** "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

## General Presentation of the Procedure and the Doctoral Candidate

The submitted set of documents, provided in both hard copy and electronic format, is well organized and presented in accordance with the requirements of Article 69 of the Regulations for the Development of Academic Staff at Medical University "Prof. Dr. Paraskev Stoyanov" – Varna.

Dr. Galina Dimova Neykova-Sidorenko graduated in Medicine from Medical University – Varna in 1995 and obtained her medical specialty in Occupational Medicine in 2024. Since November 2020, she has been enrolled as a part-time doctoral candidate in the PhD programme in Hygiene at the Department of Hygiene and Epidemiology.

Her professional career encompasses clinical practice in internal medicine, emergency medicine, and general practice, as well as extensive experience in the pharmaceutical industry as a medical representative.

Her research interests focus on occupational medicine, psychophysiological assessment of work capacity, occupational stress, mental health in the workplace, and the prevention of occupational burnout. Throughout her professional career, the PhD candidate has received several awards in recognition of her outstanding professional achievements, reflecting her professional commitment and competence.

Dr. Neykova-Sidorenko has a very good command of English, is fluent in Russian, and possesses basic knowledge of Spanish. These language competencies provide an additional advantage in accessing and critically reviewing international scientific literature.

**Relevance of the topic and knowledge of the problem**

Dr. Galina Neykova-Sidorenko's PhD thesis addresses a highly relevant and socially significant issue in the fields of occupational medicine and public health, namely the impact of occupational stress and psychosocial factors in the work environment on the health and work capacity of employees in small and medium-sized enterprises. In the context of a rapidly changing work environment, increasing occupational demands and substantial psycho-emotional strain, investigating these interrelationships is of particular importance both for safeguarding workers' health and for maintaining their work capacity and professional performance.

The relevance of the research is further reinforced by the specific challenges faced by small and medium-sized enterprises, as well as by the additional impact of the COVID-19 pandemic on work organization, mental health and employees' adaptive capacity. Particularly valuable is the comprehensive approach adopted in addressing the research problem, which integrates the assessment of mental health, psychophysiological indicators of work capacity, characteristics of occupational activities and individual factors influencing functional status.

In my assessment, the selected research topic is highly relevant, scientifically well-founded and clearly oriented towards practical application. The PhD thesis has the potential to contribute to the improvement of occupational risk assessment approaches and to the development of evidence-based recommendations for optimizing work–rest schedules, taking into account the nature of occupational activities and the functional capacities of employees.

**Characteristics and assessment of the dissertation thesis**

The submitted PhD thesis comprises 189 pages and follows the established structure of a scientific research work submitted for the award of the educational and scientific degree of Doctor (PhD).

The PhD thesis begins with an **Introduction**, which convincingly substantiates the significance of occupational stress as a major factor affecting mental and physical health, work capacity and occupational performance. The need for a comprehensive assessment of employees' psychophysiological functioning is clearly justified, particularly in the context of dynamic changes in the working environment and the additional challenges posed by the COVID-19 pandemic. The specific characteristics of small and medium-sized

enterprises are logically outlined, highlighting the substantial influence that organizational, occupational and individual factors may exert on employees' health and work capacity.

The **Literature Review** examines the principal theoretical concepts related to mental health, occupational stress, the mechanisms underlying the stress response, coping strategies, occupational burnout and psychosocial risk management. Classical theories of stress and adaptation are presented, including the models proposed by Cannon, Selye, Lazarus, and Folkman, alongside contemporary concepts of allostasis and the interaction between individuals and their working environment. Particular attention is devoted to the impact of the COVID-19 pandemic on employees' mental well-being.

The literature review demonstrates a good understanding of the theoretical foundations of the research problem and its multifactorial nature. I positively acknowledge the doctoral candidate's efforts to examine occupational stress not merely as a psychological phenomenon, but also as a factor with potential consequences for physiological functioning, work capacity, and organizational performance. The review provides an appropriate scientific foundation for the original research. Nevertheless, certain sections would benefit from a more concise presentation of theoretical concepts and a more explicit critical comparison of findings from previous studies, thereby allowing for a clearer identification of the specific research problem.

The **Aim** of the PhD research is clearly formulated and focuses on the psychophysiological assessment of health and work capacity among employees working in administrative and production units of small and medium-sized enterprises during the COVID-19 pandemic with the subsequent development of appropriate work–rest schedules. To achieve this aim, five specific objectives have been established, encompassing the assessment of lifestyle and working conditions, health status, the dynamics of work capacity throughout the working day and week, key parameters of mental health, and opportunities for optimizing work–rest schedules.

In my assessment, the stated **research objectives** are logically related to the overall research aim and provide a comprehensive approach to the problem under investigation. I particularly appreciate the inclusion of a dynamic assessment of work capacity, which allows the research to move beyond a single assessment of functional status and to examine the processes of initial work adaptation, fatigue accumulation and recovery.

The **Materials and Methods** section presents a comprehensive methodological framework integrating documentary research, sociological surveys, occupational physiological assessments, psychometric instruments and statistical methods. The overall study population comprises 314 participants, of whom 224 provided valid results from work capacity assessments. Mental health was evaluated using internationally established psychometric instruments, including the Hospital Anxiety and Depression Scale (HADS), the Zung Self-Rating Depression Scale (SDS), the Perceived Stress Scale (PSS-10) and the Maslach Burnout Inventory (MBI).

The application of diverse research methods enables the simultaneous examination of occupational characteristics, lifestyle factors, subjective manifestations of psychological

distress and psychophysiological indicators of work capacity. The use of standardized assessment instruments, together with quantitative indicators reflecting changes in work capacity throughout the working day and week, represents a notable methodological strength. The statistical analysis, including binary logistic regression, further enhances the possibility of identifying factors associated with the different phases of work capacity.

The study was conducted following approval by the Ethics Committee of Medical University – Varna, thereby addressing an essential requirement for compliance with ethical principles in research involving human participants.

Alongside these methodological strengths, it should be noted that the individual psychometric instruments were administered to subsamples of different sizes: HADS – 38 participants, the Zung scale – 79 participants, PSS-10 – 73 participants and MBI – 66 participants. This characteristic, resulting from the phased implementation of the study and organizational circumstances associated with data collection, limits the possibility of directly comparing certain findings and necessitates caution when drawing general conclusions. It is commendable that the doctoral candidate has acknowledged these limitations and addressed them in a dedicated subsection of the thesis.

The **Results** section is extensive and comprehensive, systematically presenting the sociodemographic characteristics of the participants, assessments of work capacity, mental health, somatic health status and occupational characteristics. The relationships between individual and occupational factors, psycho-emotional strain and employees' functional status are analyzed together with differences according to gender, age, professional experience and the nature of occupational activities.

A particular strength of the study is the analysis of changes in work capacity throughout the working day and week, allowing the identification of periods characterized by increased functional strain, fatigue and recovery. The comparison between employees engaged in administrative and production activities contributes to a deeper understanding of specific occupational demands and their impact on psychophysiological functioning.

Of particular interest is the assessment of mental health through the investigation of anxiety, depressive symptoms, perceived stress and occupational burnout. These indicators are examined in relation to characteristics of the working environment and the individual characteristics of the participants. The analysis identifies differences in psycho-emotional strain and work capacity that may be relevant to identifying at-risk groups and developing targeted preventive measures.

I positively evaluate the inclusion of multivariable statistical analysis aimed at investigating the independent effects of selected factors on the initial work adaptation and end-of-week performance enhancement phases within the weekly dynamics of work capacity. This approach adds analytical depth to the research and makes it possible to distinguish associations identified through univariable analyses from findings obtained after simultaneously accounting for several variables. At the same time, the interpretation of regression models should take into consideration the size of the analyzed groups and the statistical significance of individual predictors. Independent effects should not be regarded as established in the absence of sufficient statistical evidence.

The **Discussion** of the findings is organized in accordance with the main areas of the research. The doctoral candidate seeks to interpret the identified relationships in the context of published scientific evidence concerning occupational stress, work capacity, fatigue and mental health. Potential mechanisms through which psychosocial demands, age, professional experience, occupational characteristics and individual factors may influence employees' functional status are considered.

A notable strength of this section is the effort to relate the empirical findings to specific opportunities for prevention and optimization of work organization. Nevertheless, it is important to emphasize that the identified statistical relationships should primarily be interpreted as associations rather than evidence of causal relationships. This consideration is particularly relevant when analyzing psychosocial factors, which may be simultaneously influenced by numerous individual and organizational characteristics.

The **Conclusions** are formulated based on the presented findings and encompass the main aspects of health status, mental well-being and work capacity among the participants. Emphasis is placed on the importance of occupational and psycho-emotional demands, the characteristics of occupational activities, and individual differences in shaping distinct risk profiles.

The **Recommendations** are clearly practice-oriented and focus on optimizing work–rest schedules, reducing psychosocial risks, improving organizational support and promoting healthy behaviors. I particularly appreciate the effort to tailor the proposed measures to the specific characteristics of occupational activities rather than applying a uniform approach to all occupational groups.

The **Contributions** are classified into scientific and applied contributions. Among the most significant strengths of the research are the integrated application of psychophysiological and psychometric methods, the analysis of the dynamics of work capacity, the identification of relationships between psychosocial factors and functional status and the formulation of practical guidelines for organizing work–rest schedules. Particular value lies in combining indicators of work capacity with measures of mental health, thereby providing a basis for a more comprehensive assessment of occupational risk.

Overall, I positively evaluate the submitted PhD thesis. The research demonstrates a good understanding of the problem under investigation, the ability to apply a range of scientific research methods and a clear commitment to the practical interpretation of the findings. Alongside its considerable strengths, certain methodological limitations, particularly those related to the different sizes of the analytical subsamples and the comparability of the results, require more cautious formulation of some conclusions.

The PhD thesis is logically structured, addresses a complex issue in occupational medicine, and demonstrates a clear practical orientation towards protecting the health and maintaining the work capacity of employees in small and medium-sized enterprises.

**Dissertation abstract**

The submitted abstract comprises 54 pages and is illustrated with 8 tables and 22 figures. It is logically and systematically structured, reflecting the main sections of the PhD thesis, including the research aim, objectives, methodology, results and discussion, conclusions, recommendations, and contributions.

The abstract presents the principal findings of the study, supported by appropriate tabular and graphical materials. It provides a sufficiently clear overview of the scope of the research, the methodological approach, the main scientific findings, and the practical significance of the work.

A list of three scientific publications related to the PhD thesis is also included.

**CONCLUSION**

The dissertation ***contains scientific, scientific-applied and applied results that represent an original contribution to science and fully comply with all requirements*** of the Act for the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Regulations for the Implementation of the ADASRB and the Regulations of Medical University – Varna. The submitted materials and dissertation results ***fully meet*** the specific requirements adopted in connection with the Regulations of Medical University – Varna for the implementation of the ADASRB.

The dissertation demonstrates that the PhD candidate, Dr. Galina Dimova Neykova-Sidorenko, ***possesses*** depth theoretical knowledge and professional competencies in scientific specialty Hygiene and ***demonstrates*** qualities and skills for the independent research.

In view of the above, I confidently give my ***positive evaluation*** of the conducted research, presented in the dissertation, abstract, the achieved results and contributions reviewed above, and I ***propose to the honourable Scientific Jury to award the educational and scientific PhD degree*** to Dr. **Galina Dimova Neykova-Sidorenko** in the doctoral program in **Hygiene** (occupational, communal, school, radiation, etc.).

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

30.10.2026

Plovdiv

Reviewer: .....

(Prof. S. Harizanova, MD, PhD)