

COMMISSION FOR ASSESSMENT OF SCIENTIFIC ADEQUACY FOR DOCTORAL DISSERTATION TOPIC

TO THE TEACHING AND SCIENTIFIC COUNCIL OF THE FACULTY OF SPORTS AND PHYSICAL EDUCATION

Subject: Report on the review and assessment of the validity of the topic of the doctoral dissertation of Rafif Dandachi, a student from the doctoral studies program.

At the 11th session of the Teaching and Scientific Council of the Faculty of Sports and Physical Education held on 8 May 2025, in accordance with Article 32 of the Rulebook on Doctoral Academic Studies - revised text (02-No. 532/22-4 dated November 9, 2022) and Article 41 - 43 of the Statute of the University of Belgrade - Faculty of Sports and Physical Education - revised text (02-No. 896/20-2 dated July 16, 2020), on the proposal of the Doctoral Academic Studies Council (02-No.151/24-8 of December 19, 2024) the Decision was made on the formation of the Commission for the evaluation of the scientific basis of the topic of the doctoral dissertation of the doctoral academic studies student Rafif Dandachi, under the title: **"DIETARY INTAKE, BODY COMPOSITION, MORPHOLOGICAL CHARACTERISTICS AND FITNESS LEVELS IN LEBANESE ELITE DANCERS, CROSS-SECTIONAL ANALYSIS "** (02-No. 555-25-2 dated April 29, 2025).

Commission:

- **dr Marina Đorđević-Nikić**, full professor, University of Belgrade - Faculty of Sports and Physical Education, chairman of the commission
- **dr Sanja Mandarić**, full professor, University of Belgrade - Faculty of Sports and Physical Education, member
- **dr Saša Đurić**, Assistant Professor, American University of the Middle East, Kuwait - Liberal Arts Department, member

After reviewing the submitted material, the Committee submits the following report to the Teaching-Scientific Council

REPORT

Biographical data:

Rafif Dandachi was born on January 12, 1976 in Mshta Hammoud, Lebanon. She completed her primary and secondary education at the School of the Sisters of the Holy Family of the Maronite Order in Tripoli. She graduated from the Faculty of Education of the Lebanese University of Beirut in 2002 with a degree

in physical education. In 2014, she completed her master's studies in sports management at the same faculty. He is currently a doctoral student at the University of Belgrade - Faculty of Sports and Physical Education, on the Experimental Methods of Human Locomotion Study program.

In addition to her expertise in physical education, in 2022 she completed basic studies in political and administrative sciences at the Law and Political-Administrative Faculty in Tripoli, and then master's studies in the field of international organizations at the Lebanese University in Beirut.

Rafif Dandachi is a swimming coach and Asian licensed referee since 2012. She founded the contemporary dance school "First Step" in Tripoli in 2015. She is the winner of numerous awards, including: first place at the championship "The Strongest Woman of the Arab Countries"; second and third place at the national school championship of Lebanon in futsal with the female youth team of the "Raudat el-Fayha" school and multiple first place at school dance competitions in Lebanon in folk and contemporary dance.

Since 1999, he has been teaching physical education at the high school "Raudat el-Fayha", where he still works. She also taught theoretical and practical sports subjects in several vocational schools, and since 2014 she has been teaching the subjects "Sports Training" and "Expressive Dance" at the Lebanese University in Beirut. From 2025, he teaches the subjects "Training" and "Management and Organization in Sports" at the University of Tripoli - Faculty of Education.

Published scientific research papers:

Dopsaj M, Andraos Z, Richa C, Abou Mitri A, Makdissi E, El Zoghbi A, Dandachi R, Erlikh V.V, Cherepov E.A, Masiulis N, Nenasheva A.V, Zuoziene I.J, Markovic S, Fayyed F. (2022). Maximal and explosive strength normative data for handgrip test according to gender: International standardization approach. Human Movement, 23(4), doi: <https://doi.org/10.5114/hm.2022.108314>,

Scientific basis of the proposal of the topic of the doctoral dissertation

Rafif Dandachi proposed a topic entitled: "DIETARY INTAKE, BODY COMPOSITION, MORPHOLOGICAL CHARACTERISTICS, AND FITNESS LEVELS IN LEBANESE ELITE DANCERS, A CROSS-SECTIONAL ANALYSIS ANALYSIS)". In accordance with Article 32 of the Rulebook on Doctoral Academic Studies - revised text (02-No. 532/22-4 dated November 9, 2022), and Articles 41-43 of the Statute of the University of Belgrade - Faculty of Sports and Physical Education - revised text (02-No. 188/23-2 dated February 13, 2023), on the proposal of the Doctoral Academic Studies Council (02-No. 3453/24-2 of November 28, 2024) passed the Decision on the formation of the Commission for the evaluation of the scientific basis of the topic of the doctoral dissertation of the doctoral student Rafif Dandachi. On June 22, 2024, the candidate defended the public presentation of the proposal for the topic of the doctoral dissertation in front of the members of the Doctoral Academic Studies Council. Based on the presentation, the topic proposal and the research project for the doctoral dissertation were positively evaluated.

Explanation of the topic of the doctoral dissertation

Dance requires a fine balance between creative expression and high levels of fitness. The dance's complex choreography, high degree of flexibility, and dynamic movements require a thorough understanding of the relationship between food consumption, body composition, morphological traits, and fitness levels among dancers. Lebanese dance combines traditional and modern influences, creating a unique environment for elite dancers. Folk dance, especially the "Dabka", is a central part of Lebanese

dance culture, and the famous Caracalla Dance Ensemble from Baalbeek plays a key role. "Dabke" symbolizes Lebanese identity and heritage, reflecting cultural pride. Traditional dance in Lebanon enjoys high popularity and respect and is very widespread in the general population.

Contemporary dance usually refers to something more recent, performed to contemporary music, and is a fusion of ballet, jazz and modern styles of other ethnic dances. The traditions and techniques of modern dance continue to evolve as new talented artists change the rules.

The Lebanese dance community's longstanding resistance to incorporating scientific research and exercise science into teaching and training methods is evident. Despite the shared physical skills between dancers and athletes, dancers generally see themselves as artists rather than athletes. Established dance traditions and methodologies have been passed down without critical examination, and there is a reluctance to recognize the potential applications of exercise science. Factors such as the historical status of dance within the physical education system, as well as the emphasized orientation towards artistic expression, further hinder the integration of scientific research into dance education. A diametrically opposite approach to physical preparation is noticeable in ballet and folk dancers. In this regard, it is evident that there is extensive research in ballet and modern dance, studies in traditional dance are limited. Folk dance, recognized as physically demanding, has shown a positive impact on various motor skills. Professional folk dance dancers are often not systematically included in physical preparation programs based on modern principles of fitness training, while a structured approach to improving physical fitness is often absent within national ensembles. Unlike dancers in ballet and modern dance, folk dancers are not usually viewed as athletes, with the emphasis placed predominantly on dance performance and choreographic precision, while aspects of physical fitness are largely neglected.

Considering the above, there is a clear need to conduct scientifically based research aimed at assessing the state of health of dancers, with the aim of improving their motor skills and contributing to the preservation of health.

In today's world, good eating habits are the key to overall health and longevity. Adherence to the principles of healthy nutrition has a positive effect on professional ability and functional performance, especially when it comes to sports and physical exercise of all levels.

In direct correlation with behavior related to nutrition, ie. energy/nutritional intake and expenditure, as well as fitness, are morphological characteristics of an individual. The public health problem of many more developed countries in the world is the excessive presence of fatty tissue, and at the same time a low level of muscle mass in the overall body composition. A high level of success in sports is directly related to an optimal body composition specific to a given sport or any other form of physical activity.

Dancing is considered an aesthetic sport in which body proportions and overall body shape play a very important role. Very often, and especially in the pre-competitive period in dance, there are requirements for low body mass and significantly reduced body mass. Energy and nutritional deficits can then occur, which are often associated with hormonal and menstrual disorders, fatigue, injury and high psychological pressure to maintain a slender, slender body.

Traditional methods used in nutritional-epidemiological research provide quite accurate insight into the energy and nutritional intake of the subjects. This type of research is expensive, can be performed on smaller samples of respondents and requires specially trained researchers. However, the above type of research does not investigate other aspects of nutrition such as eating habits and behaviour, knowledge and attitudes about food/nutrition and food safety. All these aspects are very important in a nutrition surveillance program. In recent decades, questionnaires have been developed that aim to investigate precisely these

aspects of eating habits and are structured by scores and scales. It is well documented that any questionnaire must be tested to measure reliability before use in large studies.

Traditional dietary assessment methods commonly used to measure energy/nutrient intake are not always suitable for obtaining information on dietary behavior and for evaluating the impact of nutrition education programs, while the Italian questionnaire developed by Tarconi et al. 2003, which was used in this research, can measure the effects of dietary interventions in terms of its reliability and external validity. Also, the mentioned instrument has low usage costs and is easy to administer and analyze. Today, physical activity is very efficiently, reliably and externally valid and assessed using standardized questionnaires, while the optimal method of measuring body composition is the method of applying bioelectrical impedance.

Defining the problem, goal, tasks and significance of the study

The pursuit of top achievements in professional dance, combined with a demanding training process and frequent competitions, often leads to injuries, chronic fatigue and exhaustion.

The main goal of this study would be to examine to what extent established eating habits and morphological characteristics can be associated with the state of physical abilities and whether there is room for improvement in performance that would be achieved by corrections in the area of nutrition, body composition and physical preparation. Improving these three most important aspects would mean achieving maximum success in dance, all in accordance with the dancer's health.

The specific objectives of this study are defined as follows:

- To examine the influence of morphological characteristics and eating habits on the basic components of fitness (flexibility, agility, anaerobic and aerobic fitness) in Lebanese elite modern and folk dancers.
- To compare these profiles of the basic four factors between dancers according to the type of dance (modern and traditional) and the age characteristics of the respondents.
- Determine the differences and correlations between the examined variables according to the type of dance and the age of the subjects.
- Compile recommendations and models for healthy eating habits, achieving optimal body composition and a high level of fitness, which could be a strategic basis for the work of future trainers and teachers of elite dancers.

The tasks set in this research:

- Defining eating habits;
- Defining the profile of body composition and morphological characteristics;
- Defining the fitness level;
- Defining groups of participants based on their dance type and age characteristics;
- Data collection of sample groups;
- Data analysis using SPSS, a specialized statistical analysis program
- Explaining the variables that were investigated and interpreting the findings.

The importance of the research can be recognized in relation to the following three outcomes: a) determining the profile and level of dietary intake, body composition, morphological characteristics and physical condition of Lebanese elite modern and folk dancers, b) examining the correlation and significant differences between the variables of the main factors according to the type of dance and age characteristics and c) determining the influence of the three main factors of motor skills (flexibility, agility, anaerobic power and aerobic endurance).

Research hypotheses

Based on the analysis of the literature, as well as the defined problem, subject, goal and tasks of the research, the following hypotheses were defined:

General Hypothesis-

HG - Dietary habits and morphological characteristics have a statistically significant effect on the basic components of fitness in Lebanese elite modern and folk dancers.

Auxiliary hypotheses are defined as follows:

HS1 - Lebanese modern and elite folk dancers have satisfactory eating behaviors, morphological characteristics and levels of physical fitness.

HS2 - There are significant differences in eating behavior, morphological characteristics and level of physical ability between Lebanese elite dancers based on dance type and age.

HS3 - There are significant correlations between the variables of four factors: dietary habits, morphological characteristics profile and physical ability level of Lebanese elite modern and folk dancers.

HS4 - There is a significant influence of eating habits and morphological characteristics on the basic levels of physical abilities of Lebanese elite modern folk dancers, especially in the manifestation of flexibility, agility, anaerobic and aerobic abilities.

Research methods

The research sample will consist of 260 Lebanese dancers divided as follows: 160 folk dancers (n = 160; men = 100, women = 60) and 100 modern dancers (n = 100; men = 50, women = 50) selected from dance ensembles from different Lebanese provinces. The research will include dancers from different regions and age categories, and the criteria for participation will include the status of active dancers registered in 40 professional folklore ensembles in Lebanon, with at least three years of continuous training experience and without the presence of injuries, chronic diseases or disabilities at the time of the research. Participants in this study will participate voluntarily. To agree to participate in this study, participants will be asked to sign a consent form, which will be conducted by answering a question at the beginning of the Ishana Habits Questionnaire confirming their participation. Before conducting the research, the dancers will be informed that all collected data will be treated as confidential and used exclusively for the purposes of scientific research.

Data collection is planned for 2025, and the research protocol is aligned with the principles of the Helsinki Declaration (World Medical Association, 2013) and approved by the Ethics Committee of the University of Belgrade - Faculty of Sports and Physical Education.

Questionnaire about eating habits applied through Google Forms, will ensure confidentiality and anonymity at all times. The link to the said questionnaire will be shared through various electronic applications, social networks and email addresses of the dancers who will be included in the research.

In this research, 23 items will be used out of a total of 99, divided into two sections out of the intended nine, covering key nutritional aspects and subtopics including frequency of food consumption (13 items). Seven questions were added before the first section, in order to obtain socio-demographic - personal data. This information will include: gender, date of birth, place of birth, place of residence for the last five years, marital status, number of children and professional status (employed / unemployed).

Section 1 - refers to the frequency of food consumption and includes 10 questions about the consumption of healthy or unhealthy food. Section 2 - eating habits, will include 14 questions and is scored

by the score assigned to each answer, ranging from 1 to 4, with the maximum score assigned to the healthiest and the minimum score to the least healthy. The total score for this section will be 52. The reliability of this survey was acceptable and Cronbach's alpha ranged from a minimum of 0.55 to a maximum of 0.75. All Pearson correlation coefficients were statistically significant with $p = 0.05$.

After completing the questionnaire, the morphological characteristics will be determined. This study will include 8 variables, 2 of which are basic and 6 calculated as index values. Basic and derived body composition variables will be determined using the bioelectrical impedance analysis method - InBody 270 (Biospace Co. Ltd, Seoul, Korea).

In the chapter Physical ability, the candidate learns about the motor skills that are important for successful dancing and about the importance for general health, well-being and prevention of chronic diseases. It also explains the tests that are used to assess aerobic and anaerobic abilities, where it lists tests with a progressive increase in load to assess aerobic abilities and the Wingate anaerobic test, which is performed on a bicycle ergometer. As one of the more important motor skills, he also mentions explosive power, which is assessed by vertical jumps with different initial prerequisites. Anaerobic capacity and leg strength show high reliability because as stated in the research by Quinn et al. (2008) the Wingate anaerobic cycling test (VanT) and the vertical jump height test (VJH) are correlated with each other. The obtained results showed a positive correlation ($r=0.54$, $n=492$, $p=0.00$) between VanT and VJH, which indicates that both instruments are reliable ways to assess the strength of the leg musculature of dancers (Redding, 2009). Given that dance choreographies have a certain duration and intensity, the candidate states that dance is an activity that uses both anaerobic and aerobic energy systems (Cohen & Vills, 1985; Rimmer et al 1994), with special emphasis that the intensity of exercise can vary in an unstable manner, ranging from low and moderate to high activity intensity (Cohen & Vills, 1985; Schantz & Astrand, 1984). Based on this, it is possible to conclude that the energy systems required for ATP production are probably always changing to allow for intensities that cover a wide range of energy needs. The physiological demands of dance can be attributed to his ability to achieve a wide range of motion in his joints, as well as his high-intensity jumps and reaches during performance. Based on some research (Redding, 2009), the amount of oxygen was measured during modern dance classes, rehearsals and performances, and variations in intensity during these activities were observed.

A battery of tests has been proposed to assess the motor skills of dancers, which is harmonized with the requirements in dance. To assess aerobic endurance, the Dance Aerobic Test will be administered - a multi-level dance-specific aerobic field test used to determine whether a dancer has the cardiorespiratory capacity to handle the demands of the level of dance and performance. The 300 m Shuttle Run Test will be used to assess anaerobic power - a 300 m return run test, where the distance between the lines is 25 m, at the maximum possible intensity. Agility, which is important for successful performance in dance, will be assessed through three different agility tests applied to dancers: Sidesteps, Agility with Bending and Agility in the air. To assess the flexibility of the leg musculature, 7 most commonly applied field tests (Božić et al., 2010) were selected, in which steps forward and to the side are used in order to obtain the complete status of flexibility. Arm and shoulder girdle flexibility was measured by the shoulder rotation test using the Acuflex III flexibility tester (Noval Products, Inc.; USA).

Descriptive statistics will be performed for all obtained variables, which will include the presentation of measures of central tendency and variability. The mean, standard deviation (SD), minimum (MIN), maximum (MAX), coefficient of variation (cV%) and Kolmogorov-Smirnov test for homogeneity of distribution (KST) will be determined. Pearson and Spearman correlation, T-test for independent samples, Mann Whitney U test, analysis of variance (ANOVA), multivariate analysis of variance

(MANOVA) and finally, multiple regression analysis will be used to compare the obtained variables. The level of statistical significance will be set at $p < 0.05$. IBM's Statistical Package for the Social Sciences (SPSS, version 26) will be used for all statistical procedures.

The proposal of the doctoral dissertation in the Literature section includes 102 references listed in the topic.

The mentor's proposal, the mentor's consent and a list of his referent articles

We suggest that the mentor in the realization of the doctoral dissertation project be **Dr Dejan Suzović**, full professor, University of Belgrade - Faculty of Sports and Physical Education, Serbia.

The proposed mentor, full professor Dejan Suzović, Ph.D., fully meets the requirements stipulated in the Standards for the Accreditation of Doctoral Study Programs and agrees to be a mentor in the realization of the doctoral dissertation of candidate **Rafif Dandachi**, according to the proposed topic.

We are attaching a list of papers published by regular professor Dr Dejan Suzović in international scientific journals in the last 10 years, which according to their topic belong to the scientific field of Physical Education and Sport, to which the proposed topic belongs. Also, we emphasize that certain works are closely related to the proposed topic:

List of articles:

1.	Vojinovic A, Janicijevic D, Petrovic R. M, Garcia-Ramos A, Simic M, and Suzovic D . FREE WEIGHT TRAINING VS. ELASTIC BAND TRAINING: WHAT IS A MORE EFFECTIVE STRATEGY FOR INCREASING MAXIMAL VELOCITY ABILITY DURING HANDBALL THROWS? <i>Kinesiology</i> 55(2023)1:21-29
2.	Pérez-Castilla A, Suzovic D , Domanovic A, Fernandes JFT, García-Ramos A. (2019). VALIDITY OF DIFFERENT VELOCITY-BASED METHODS AND REPETITIONS-TO-FAILURE EQUATIONS FOR PREDICTING THE ONE-REPETITION MAXIMUM DURING TWO UPPER-BODY PULLING EXERCISES, <i>Journal of Strength and Conditioning Research</i> , Feb 6. doi: 10.1519/JSC.0000000000003076. [Epub ahead of print]
3.	García Ramos A, Suzovic D , Pérez-Castilla A. (2019). THE LOAD-VELOCITY PROFILES OF THREE UPPER-BODY PUSHING EXERCISES IN MEN AND WOMEN, <i>Sports Biomechanics</i> , 12:1-13
4.	Zivkovic M, Djuric S, Cuk I, Suzovic D & Jaric S. (2017). MUSCLE FORCE-VELOCITY RELATIONSHIPS OBSERVED IN FOUR DIFFERENT FUNCTIONAL TESTS, <i>Journal of Human Kinetics</i> ,vol. 56/2017, 39-49.
5.	Zivkovic M, Djuric S, Cuk I, Suzovic D & Jaric S. (2017). A SIMPLE METHOD FOR ASSESSMENT OF MUSCLE FORCE, VELOCITY, AND POWER PRODUCING CAPACITIES FROM FUNCTIONAL MOVEMENT TASKS, <i>Journal of Sports Sciences</i> , 35:13, 1287-1293,

Opinion and proposal of the Commission

Rafif Dandachi's doctoral dissertation topic proposal is written in English, and the proposed topic is aimed at researching issues related to eating habits, morphological characteristics and fitness level of elite dancers of Lebanese traditional and modern dance clubs.

The commission proposes a correction of the topic, which should read: **EATING HABITS, MORPHOLOGICAL CHARACTERISTICS AND FITNESS LEVELS OF LEBANESE ELITE DANCERS - A CROSS SECTIONAL ANALYSIS.**

The research problem is explained in detail, and the goal and hypotheses are clearly formulated. The provided methods in the research enable the realization of the research objectives and are in accordance with the Ethical Standards of scientific work.

The research will provide new, methodologically based, knowledge about the importance of eating habits and optimal body composition for achieving a high level of fitness, and thus increasing the dancing abilities of Lebanese traditional and modern dancers. The potential results of the research will have immediate application in practice, as they will directly indicate the possibility of applying the knowledge in developing the program and content of the promotion and improvement of the given areas.

We suggest that the Teaching-Scientific Council accept the Commission's Report and send a decision to the Council of Scientific Fields of Social and Humanities approving the topic of Rafif Dandachi's doctoral dissertation under the title **"EATING HABITS, MORPHOLOGICAL CHARACTERISTICS AND FITNESS LEVELS OF LEBANESE ELITE DANCERS - A CROSS SECTIONAL ANALYSIS.**

We also suggest that **Dr Dejan Suzović**, full professor be appointed as a mentor.

Members of the commission:

Dr Marina Đorđević - Nikić, full professor,
University of Belgrade - Faculty of Sports and Physical Education,
president of the commission

Dr Sanja Mandarić, full professor,
University of Belgrade - Faculty of Sports and Physical Education,
member

Dr Saša Đurić, Assistant Professor,
American University of the Middle East, Kuwait - Liberal Arts Department,
member

Belgrade, June 26, 2025