

DOCUMENT

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Document type: Characteristics of the submitted research/ artistic/other output
The name of the university Catholic University in Ružomberok
The seat of the university Hrabovská cesta 1A, 034 01 Ružomberok
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OCA1. - Surname awarded to the assessed person

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OCA2. - Name awarded to the assessed person

Peter

OCA3. - Degrees awarded to the assessed person

PaedDr., PhD.

OCA4. - Hyperlink to the entry of the person in the Register of university staff

<https://www.portalvs.sk/regzam/detail/7945>

1st evaluated output

1.

Stupeň štúdia: I., II., III.

Typ štúdia: J, U

OCA5. - Area of assessment

Bc. Physical education teaching; Mgr. Physical education teaching; PhD. Theory and Didactics of Physical and Sports Education;

OCA6. - Category of the research/ artistic/other output

scientific output

OCA7. - Year of publication of the research/artistic/other output

2020

OCA8. - ID of the record in the Central Registry of Publication Activity (CRPA) or the Central Registry of Artistic Activity (CRAA)

PhD. Teória a didaktika telovýchovného a športového vzdelávania/Theory and Didactics of Physical and Sports Education

OCA9. - Hyperlink to the record in CRPA or CRAA

<https://app.crepc.sk/?fn=detailBiblioFormChildCHFTO&sid=9498AC2C2D7C445A867D8E28BD&seo=CREP%C4%8C-detail-%C4%8C%C3%A1nok>

Title of the publication to which the hyperlink points

Development of specific training load in boxing

OCA14. - Characteristics of the author's contribution

Author's contribution: 25%. Preparation of the theoretical framework, statistical analysis, development of the discussion and conclusions.

OCA17. - List of maximum 5 most significant citations corresponding to the output

- (1) [1] POTERYAKHIN, AA. et al.. (2021) Technical and tactical training of kickboxers and the results of performances at international tournaments in tatami. Journal of Physical Education and Sport, 21 (1), p. 444 - 450.
- (2) [1] WILSON, DC., et al. (2020). Physical profile of junior and senior amateur boxers. Journal of Physical Education and Sport, 20 (6), 3452-3459.
- (3) [1] ALZHANOV, Hanat Hudaibergenovich, et al. (2021) A comparative analysis of the competitive fights of fighters in mixed martial arts. Journal of Physical Education and Sport, 2021, 21.6: 3405-3410.
- (4) [1] TYSHCHENKO, Valeria, et al. (2023) Neurological typology and its role in enhancing technical and tactical skills in adolescent female boxers. Health, sport, rehabilitation, 2023, 9.4: 57-72.
- (5) [1] REZZONICO, Gabriel; DZUROVCIN, Walter; PERRONE, Marcelo Lucas. (2023) Acuerdo de expertos sobre la programación del sparring en boxeo utilizando una técnica delphi. MLS Sport Research, 2023, 3.2.

OCA18. - Characteristics of the output's impact on socio-economic practice

Combat sports are gaining increasing popularity in contemporary society. Achieving high athletic performance requires an effectively structured training process, which presupposes a profound understanding of the structure of sports performance. Advancing the quality of knowledge in this field can objectively contribute to the optimization of athletic preparation for the highest-level international and European competitions (Olympic Games, World Championships, European Championships).

OCA19. - Characteristics of the output and related activities' impact on the educational process

The proposed training load is essentially very simple and can be modified both in terms of duration and applicability to sports beyond combat disciplines, since strength-speed performance in a repeated endurance regime represents, to a greater or lesser extent, a limiting factor across almost all sporting domains. The movement program can likewise be implemented as an enrichment of physical education classes and, not least, as a means of enhancing the general physical fitness of students enrolled in the field of Physical Education. The research findings may also be applied in the instruction of the course Theory and Didactics of Sport 3 (Gymnastics, Combat Activities).

2nd evaluated output

1.
Stupeň štúdia: I., II., III.
Typ štúdia: J, U

OCA5. - Area of assessment

Bc. Physical education teaching; Mgr. Physical education teaching; PhD. Theory and Didactics of Physical and Sports Education;

OCA6. - Category of the research/ artistic/other output

scientific output

OCA7. - Year of publication of the research/artistic/other output

2023

OCA8. - ID of the record in the Central Registry of Publication Activity (CRPA) or the Central Registry of Artistic Activity (CRAA)

ID - 1030764

OCA9. - Hyperlink to the record in CRPA or CRAA

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[fn=detailBiblioFormChildCKCED&sid=E772F1AD1236459C66B39B4CBC49&seo=CREP%C4%8C-detail-%C4%8CI%C3%A1nok](https://app.crepc.sk/?fn=detailBiblioFormChildCKCED&sid=E772F1AD1236459C66B39B4CBC49&seo=CREP%C4%8C-detail-%C4%8CI%C3%A1nok)

Title of the publication to which the hyperlink points

Allometric normalization of handgrip strength in older adults: Which body size parameter is the most appropriate?

OCA14. - Characteristics of the author's contribution

Author's contribution: 15%. Statistical analysis, development of the discussion and conclusions.

OCA17. - List of maximum 5 most significant citations corresponding to the output

- (1) [1] DEPRez, Alyson, et al. (2024) Adults born preterm have lower peripheral skeletal muscle area and strength. *Scientific Reports*, 2024, 14.1: 21457.
- (2) [1] CONWAY, Brian J., et al. (2023) Quantifying Hand Strength and Isometric Pinch Individuation Using a Flexible Pressure Sensor Grid. *Sensors*, 2023, 23.13: 5924.
- (3) [1] KEMALA SARI, Nina; STEPVIA, Stepvia; ILYAS, Muhana Fawwazy. (2024) The Association between Anthropometric Measurements and Body Composition with Hand Grip Strength among the Elderly Population in Indonesia. *Journal of Clinical Medicine*, 2024, 13.16: 4697.
- (4) [1] KÜLKAMP, Wladimir, et al. (2024) Comparing handgrip strength between judokas and non-judokas using population-based normative values. *Sport Sciences for Health*, 2024, 20.2: 619-626.
- (5) [1] KÜLKAMP, Wladimir, et al. (2023) A comparison of absolute, ratio standard and allometric approaches for bench press performance assessment in men over 60. *Journal of Physical Education*, 2023, 34: e3424.

OCA18. - Characteristics of the output's impact on socio-economic practice

The research outputs contribute to more accurate assessment of muscle strength in older adults, which is essential for identifying the risk of sarcopenia, falls, and other health-related complications. Selecting an appropriate parameter for allometric normalization enhances the precision of measurements, thereby enabling more effective diagnostic and preventive interventions. These findings may lead to the optimization of rehabilitation programs and individually tailored exercise plans, ultimately improving the quality of life of older individuals. From an economic perspective, the outcomes may reduce healthcare costs through preventive measures and improved management of conditions associated with muscle mass loss. At the same time, the implementation of results into practice will support the development of new tools and technologies for assessing muscle strength.

OCA19. - Characteristics of the output and related activities' impact on the educational process

The output has a significant impact on the educational process in Physical and Sports Education, particularly in the context of teaching physiology, anthropometry, and fitness assessment. Students can become acquainted with modern scientific approaches to measuring muscle strength and gain an understanding of the importance of allometric normalization for the interpretation of test results. The content of the article may be integrated into educational modules focused on the assessment of physical performance across different age groups, thereby strengthening students' ability to apply theory in practice. Discussion on the selection of the most appropriate body parameters for normalization will foster critical thinking and the ability to address methodological challenges. The practical application of these findings can be incorporated into laboratory classes, where students will carry out measurements and analyze data. Such activities will enhance their skills in working with diverse age groups, particularly with older adults.

3rd evaluated output

1.
Stupeň štúdia: I., II., III.
Typ štúdia: J, U

OCA5. - Area of assessment

Bc. Physical education teaching; Mgr. Physical education teaching; PhD. Theory and Didactics of Physical and Sports Education;

OCA6. - Category of the research/ artistic/other output

scientific output

OCA7. - Year of publication of the research/artistic/other output

2020

OCA8. - ID of the record in the Central Registry of Publication Activity (CRPA) or the Central Registry of Artistic Activity (CRAA)

ID - 433484

OCA9. - Hyperlink to the record in CRPA or CRAA

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[fn=detailBiblioFormChildIKENJ&sid=F19F028150BE8EAAE8E1025910&seo=CREP%C4%8C-detail-kapitola-/-pr%C3%Adspevok](https://app.crepc.sk/?fn=detailBiblioFormChildIKENJ&sid=F19F028150BE8EAAE8E1025910&seo=CREP%C4%8C-detail-kapitola-/-pr%C3%Adspevok)

Title of the publication to which the hyperlink points

Preface of the "Health, Exercise, Prevention and Technology"

OCA14. - Characteristics of the author's contribution

Author's contribution: 100%. Data collection, theoretical elaboration of the problem, statistical analysis, development of the discussion and conclusions.

OCA18. - Characteristics of the output's impact on socio-economic practice

The output has a significant impact on socio-economic practice by emphasizing the interconnection between health, physical activity, prevention, and technologies. This multidisciplinary approach reflects current societal needs, such as addressing health challenges through innovation and promoting a healthy lifestyle. The article fosters collaboration among experts in medicine, sports science, and technological development, which may lead to the creation of new tools and applications to support prevention and improve quality of life. The implementation of these solutions may reduce healthcare costs through more effective preventive measures, while also supporting education and raising public awareness of the importance of physical activity.

OCA19. - Characteristics of the output and related activities' impact on the educational process

The output provides a basis for discussion on the use of technological innovations, such as wearable devices and digital applications, in supporting a healthy lifestyle. Practical activities may include simulations or data analyses derived from such technologies, thereby enhancing students' skills in working with modern tools. The importance of prevention and physical activity for health can be integrated into curricula, fostering education towards an active and healthy lifestyle. The article also stimulates critical thinking and the search for solutions on how to apply this knowledge in practice, for example when working with different age groups. It offers new perspectives that can be utilized in the design of innovative teaching methods. In this way, it contributes to the development of future professionals in Physical and Sports Education, preparing them to address contemporary challenges in the fields of health and technology.

4th evaluated output

1.

Stupeň štúdia: I., II., III.

Typ štúdia: J, U

OCA5. - Area of assessment

Bc. Physical education teaching; Mgr. Physical education teaching; PhD. Theory and Didactics of Physical and Sports Education;

OCA6. - Category of the research/ artistic/other output

scientific output

OCA7. - Year of publication of the research/artistic/other output

2024

OCA8. - ID of the record in the Central Registry of Publication Activity (CRPA) or the Central Registry of Artistic Activity (CRAA)

ID - 1208007

OCA9. - Hyperlink to the record in CRPA or CRAA

[https://app.crepc.sk/?](https://app.crepc.sk/?fn=detailBiblioFormChildMKTEK&sid=0A8AE641E757DE6068B617A6A9A3&seo=CREP%C4%8C-detail-%C4%8CI%C3%A1nok)

[fn=detailBiblioFormChildMKTEK&sid=0A8AE641E757DE6068B617A6A9A3&seo=CREP%C4%8C-detail-%C4%8CI%C3%A1nok](https://app.crepc.sk/?fn=detailBiblioFormChildMKTEK&sid=0A8AE641E757DE6068B617A6A9A3&seo=CREP%C4%8C-detail-%C4%8CI%C3%A1nok)

Title of the publication to which the hyperlink points

Assessment of exercise intensity using the Phyphox Mobile App

OCA14. - Characteristics of the author's contribution

Author's contribution: 15%.

OCA17. - List of maximum 5 most significant citations corresponding to the output

(1) [1] ŠISKA, Ľuboslav, et al. (2024) The Relationship Between the Burpee Movement Program and Strength and Endurance Performance Measures in Active Young Adults: A Cross-Sectional Analysis. *Journal of Functional Morphology and Kinesiology*, 2024, 9.4: 197.

OCA18. - Characteristics of the output's impact on socio-economic practice

The output has a significant impact on socio-economic practice by providing an accessible and innovative solution for monitoring exercise intensity. The Phyphox application, which utilizes sensors of common mobile devices, makes accurate measurement of physical activity available to the general public without the need for expensive specialized equipment. This enables individuals to regulate their training more effectively, thereby supporting the prevention of health risks and improving overall fitness. For sports professionals and coaches, it offers a tool for more efficient management of the training process at minimal cost. From a healthcare perspective, the application can contribute to improved patient monitoring in rehabilitation programs, enhancing their effectiveness and reducing costs. The implementation of such technologies into educational programs and public campaigns will promote awareness of the importance of regular physical activity. Moreover, the wider use of the application may stimulate technological innovations and support the development of new mobile solutions in the fields of health and sport.

OCA19. - Characteristics of the output and related activities' impact on the educational process

The output has a substantial impact on the educational process in Physical and Sports Education by introducing practical opportunities for the use of modern technologies in measuring physical activity. The integration of the Phyphox application into teaching enables students to become familiar with innovative tools for assessing exercise intensity, thereby enhancing their digital skills and ability to work with data. Practical activities may include measurement simulations during physical activities, data analysis, and interpretation, which foster active learning and the application of theory in practice. The article also opens space for discussion on the importance of load monitoring for effective training and rehabilitation programs. These insights can be applied not only in the teaching of sports science, but also in health-related disciplines where monitoring physical activity is essential.

5th evaluated output

1.

Stupeň štúdia: I., II., III.

Typ štúdia: J, U

OCA5. - Area of assessment

Bc. Physical education teaching; Mgr. Physical education teaching; PhD. Theory and Didactics of Physical and Sports Education;

OCA6. - Category of the research/ artistic/other output

scientific output

OCA7. - Year of publication of the research/artistic/other output

2014

OCA8. - ID of the record in the Central Registry of Publication Activity (CRPA) or the Central Registry of Artistic Activity (CRAA)

ID - 645312

OCA9. - Hyperlink to the record in CRPA or CRAA

<https://app.crepc.sk/?>

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%C4%8C%3%A1nok

Title of the publication to which the hyperlink points

Speed parameters in female pole vault

OCA14. - Characteristics of the author's contribution

Author contribution: 60%. Responsible for data collection, elaboration of the theoretical framework, statistical analysis, and formulation of the discussion and conclusions.

OCA17. - List of maximum 5 most significant citations corresponding to the output

(1) [1] PANOUTSAKOPOULOS, Vassilios, et al. (2021) Gender differences in pole vault approach run kinematics and step parameter asymmetry during an elite indoor competition. *International journal of performance analysis in sport*, 2021, 21.4: 477-490.

(2) [1] KOŠTIAL, Ján; MAČURA, Peter. (2021) Hallmarks of the kinematic structure of competitive motor activities in athletic jumping events. In: *AIP Conference Proceedings*. AIP Publishing, 2021.

OCA18. - Characteristics of the output's impact on socio-economic practice

Speed, in general, is a decisive factor not only for overall athletic performance, but especially for its partial components that determine the final outcome. Losses within individual movement segments at different factor levels of sports performance limit the achievement of maximal athletic results. It is therefore crucial to attain the highest possible speed-time relations in the specific phases of the pole vault in order to reach the performance ceiling of the athlete.

OCA19. - Characteristics of the output and related activities' impact on the educational process

The speed of a student in the learning process defines the teacher's approach to the acquisition of exercise elements and motor skills. It is decisive for the pace of the student's skill acquisition. These analyses can also be applied in movement and sports games. The research findings may be utilized in the teaching of the course Theory and Didactics of Sport 2 (Athletics).

Date of last update

12.03.2026