

Abstract

University of Rzeszów
College of Medical Sciences
Institute of Physical Culture Sciences

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Morphofunctional conditions of Special Operations Forces candidates during terrain phase of selection

Author: Grzegorz Krawczyk

Supervisor: Prof. Krzysztof Przednowek

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The aim of the study was to identify selected morphological, motor, and psychomotor characteristics of candidates for Special Forces Units (SFU) and to determine their relationship with the outcome of the selection process. The research was conducted among 87 candidates, of whom 49 successfully completed the selection, while 38 failed. The study involved a comprehensive assessment of SFU candidates, covering morphological, motor, and psychomotor parameters. The analysis included basic somatic features such as body height, body mass, and body composition. Physical performance was assessed in terms of strength (handgrip strength, maximal force in the IMTP test), power (vertical jumps SJ and CMJ), speed (30 m and 100 m sprints), agility (T-test Agility), as well as aerobic and anaerobic endurance (3000 m run and RAST test). In addition, a set of functional tasks specific to military conditions was carried out, including rope climbing, pull-ups, dips, wall ball, wall vaults, 10×10 m shuttle run, sit-ups, and a 200 m swim. Static balance was also evaluated using a force platform. Psychomotor abilities were examined with the Test2Drive computerized battery, including simple and choice reaction time, hand-eye coordination, spatial and movement anticipation, as well as attention performance. The analysis revealed that successful completion of the SFU selection process was more frequent among taller candidates, with higher FATP_P1, which facilitated

adaptation to field-related loads. Aerobic capacity, assessed through the 3000 m run and reflecting VO₂max, proved to be a significant predictor of success.

Furthermore, right lower-limb strength (IMTP), speed parameters, and psychomotor abilities—such as 20–30 m sprint times and motor times in SIRT, CHORT, and HECOR tests—played a crucial role.