Book of abstracts
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were also faster and more powerful during the Margaria-Kalamen test but no difference was observed during CMJ and SJ. The 6-week specific program did not change players’ speed and power capacities.

For this highly trained population, we can conclude that only vertical jumping capacities are independent of the RAE and that 6 weeks of training focusing on speed and power are not sufficient to improve these capacities.

**Keywords:** growth, relative age effect, performance, testing.

**References:**

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**Performance profile and cognitive abilities of football players in post-season period**

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**Objective:** Identifying the psychological variables that help the athletes achieve results continues to be an important goal for sport scientists, but relations between cognitive abilities and physical performance in football are still discussed (Ward & Williams, 2003; MacMahon et al., 2014). The purpose of this study was to investigate the relationships between athletic performance and cognitive abilities of football players. 46 male athletes (26 football players represent the 2nd national division, 20 – semiprofessionals) participated in research during post-season period (19.5±3.3 yr).

**Method**
The following performance and psychological measurements were investigated: Physical performance measurements: anaerobic performance was established in 30 s Wingate test (Gonzalez, 2013) using non-motorized treadmill Woodway Curve 3.0, registered the peak and mean velocity. Aerobic performance (VO₂max) was measured by Yo-Yo test (Cortex Metamax 3B), (Haugen & Seiler, 2015).
Psychological (cognitive) measurements: multiple object tracking ability was assessed by completion of 1 «Core» session of Neurotracker (CogniSens, Canada). All athletes were tested unfamiliar to the Neurotracker device. Effectiveness of refocusing (“Red-Black Tables”, Shulte-Platonov) and short-term memory (“Geometric figures”, Gusev&Kremlev) was determined using computer based stimulation (Praktika-MSU, Russia); reaction time was measured by the completion of 1-minute «Proactive» session on Dynavision D2 (after warming-up with the similar 1-minute session).

Results

Data VO2max were 66±6.3 ml/kg/min, peak velocity during Wingate test - 6.4±0.5 m/s, mean velocity during Wingate test - 5.3±0.5 m/s. We observed negative correlations between peak velocity and multiple object tracking ability, effectiveness of completion short-term memory test (r = -0.331; p = 0.03; r = -0.384; p = 0.02, respectively).

Conclusion

We propose that athletes with lower levels of cognitive abilities can achieve high athletic performance due to highly developed anaerobic capabilities, and vice versa - with the help of highly developed attention and memory players can compensate the lack of ability for fast and "explosive" actions, for example executing the action skillfully, but with less speed. Therefore, the targeted cognitive abilities development for players (especially forwards and midfielders) can improve their performance in football. We plan to investigate this hypothesis in further studies.

Keywords: Yo-Yo test, VO2max, Wingate test, performance, cognitive abilities.

References


During this congress, attention is focused on "image, multimedia and new technologies" in the area of football: Decision support technologies, Statistics and Analysis, Design and Innovation, Modélisation and simulation, Virtual Reality, New materials, etc.). Other aspects are also tackled: Sciences & Football: Psychology, Ergonomics, Neurosciences, Motor Learning and Development, History, Sociology, Management / Marketing, Pedagogy and Didactics, Physiology, Biomechanics, Economics, etc. Coaching Science: Game Performance / Analysis, Trainings and Tests, Talent identification, Football player development, Women’s football and gender, Football and health, Medicine / Prevention and rehabilitation, Physical preparation, Mental preparation, etc. Multimedia, Information and Football: Football and Media, Marketing, Image (s) and new technologies, Social Media, Security and Integrity, etc.