
UNCE - The University research Centres



The University Research Centers (UNCE) competition is aimed primarily at supporting young promising academics and researchers in the framework of the highest quality group basic research. UNCE's financial support enables the development and deepening of scientific research activities of those centers where the research team has already achieved internationally recognized results.

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UNCE 2024-2029

University Centre for human motor development and influence of motivation to physical activitiesCoordinator: Martin Musálek

For several decades, research studies have explored the effectiveness of physical activity programs for children, usually last 6-24 weeks, to reduce obesity, improve physical activity levels, fitness, and cognitive functions, and decrease sports dropout rates among adolescents. However, a significant challenge persists in that these interventions fail to produce long-lasting changes in physical behaviour. Furthermore, the mechanism that promotes increased adherence to physical activities, known as physical literacy, remains unidentified even though physical literacy is a critical factor in influencing long-term physical habits and constitutes a fundamental aspect of human well-being. The UNCE project investigates adherence mechanisms in children and adolescents to adulthood (age 6-24) through a comprehensive, long-term study involving general and sports populations. The theoretical framework employed to explore these mechanisms and develop physical activity programs that facilitate the desired adherence within the familial, educational, and peer contexts will draw upon Stodden's structural model, the concept of self-determination, autonomous motivation, and Newell's theory.

UNCE 2018-2023

University Centre of Excellence Research in Elite Sport PerformanceCoordinator: František Zahálka

The center is focused on the area of elite sport performance in reflection of complementary approaches for motor learning, motor control, and in the field of sport sciences. The benefits originated in sport science (research, practice, implementation) leading to improvement of sport performance in elite athletes is highly accelerated, with high social and economic support during recent decades. Sport performance, has a multidimensional meaning and its identification requires a quantitative and qualitative multidisciplinary approach. The centre has demonstrated competence (scientific and clinical) in the fields of objectivization, prediction, and differentiation (its subsystems and indicators) of sport performance based on pre-defined criteria (independent variables: elite level, athlete ontogenetic, injury, and others. The outcome of this project is standardization and verification of selected procedures for the identification of sport performance and injury related parameters in elite athletes. The project should prepare the algorithm of research approach for the objectivization of human training load (internal and external) aiming to training adjustment and optimization.

