

Investigating the sleep behaviours of international equestrian event riders

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soccer performance-related outcomes. Therefore, further, more high-quality research is needed.

Posters Day 2

D2.P1 Effects of strength and endurance training on conditional motor capacities: strength, speed, and endurance in youth athletes.

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Strength and endurance programs (SEP) have demonstrated significant effects on the synthesis of contractile proteins responsible for muscle hypertrophy, as well as proteins involved in oxidative metabolism (Coffey & Hawley, 2007, *Sports Medicine*, 37, 737-763). These adaptations are particularly relevant for developing conditional physical capacities in children and adolescents (Kolb, S., Burchartz, A., et al. 2021, *International journal of environmental research and public health*, 18(20), 10711). The present study aims to evaluate the effect of SEP on the physical capacities of endurance, strength, and speed in children and adolescents. This quantitative research utilized a non-probabilistic random sample of 24 athletes (11 females and 13 males, mean age 12.5 ± 3.7 years). Participants were divided into two groups: experimental (EG) and control (CG). Baseline measurements included anthropometric characteristics, strength (assessed using the 1RM test), and endurance (evaluated using the cyclic Luc Leger test for VO₂Max). The SEP intervention was conducted over eight weeks with four sessions per week, incorporating strength training at 50% of 1RM and varying aerobic and anaerobic endurance training. Lower body power was assessed using Vertical Jump (VJ) and Horizontal Jump (HJ) tests (Gutiérrez-Dávila et al., 2012). Lactic anaerobic power was measured with the 300m test, upper body power with a 4kg medicine ball throw test, and speed with a 50m flat test to measure Reaction Speed (RS) in the first 20m and Maximum Cyclic Speed (MCS) in the last 20m. Post-intervention results showed significant improvements in the EG compared to the CG. Specifically, strength gains in the upper body (chest 34%, shoulder 14%) and lower body (quadriceps 20%, hamstrings 9%) were higher in the EG.

VO₂Max increased by 5% in the EG, surpassing the CG. The EG also showed a 2% advantage in the 300m test, a 7% greater improvement in RS and MCS, and a 4% higher Average Ascent Speed (AAS). Additionally, the VJ test revealed a 9% difference favoring the EG. A t-test was conducted to examine the relationship between mean values in the control and experimental groups. The analysis revealed no significant relationship between VO₂Max and 1RM chest ($P < 0.05$). Overall, the findings suggest that while all participants improved across all conditional capacities, the experimental group, which underwent the 8-week SEP at 50% of 1RM, exhibited a greater percentage increase in endurance (AAS, VO₂Max), lower body power (VJ, SAPJSI), lactic power, and upper body power capacities compared to the control group.

D2.P2 Investigating the sleep behaviours of international equestrian event riders

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Eventing is a high-risk sport that demands optimal cognitive functioning for both performance and safety. Despite the known relationship between poor sleep and impaired cognitive performance (Fullagar et al., *Sports Medicine*, 2015, 161-186), there is no existing research on sleep in international equestrian athletes. Therefore, the aim of this study was to investigate sleep behaviours in this population. The study received institutional ethical approval and consisted of two components. First, the Athlete Sleep Screening Questionnaire (ASSQ) was used as an athlete-specific sleep-screening tool (Samuels et al., *British Journal of Sports Medicine*, 2016, 50, 418-422). A total of 230 participants (18-24 years = 43%, 25-29 years = 18%, ≥30 years = 39%, females = 80%) completed the ASSQ in an online survey from August 2023 to February 2024. Sleep difficulty scores (SDS) were calculated from the ASSQ, and participants were categorised into none/mild (SDS ≤ 7), moderate (SDS 8-10), and severe (SDS ≥ 11) sleep difficulty groups. Second, sleep during a four-day competition in August 2023 was assessed using wrist-worn actigraphy (GENEActiv, Activinsights) in 20 participants (Mage = 26.6 years, SDage = 8.5, females = 50%). Raw accelerometer data were analysed using the GGIR R-package and the van Hees algorithm (van

Hees et al., PLoS ONE, 2015, 10, e0142533). The mean SDS was 6.8 (SD = 3.2), with 22% and 14% of participants classified as having moderate and severe sleep difficulties, respectively. The average actigraphy-derived total sleep time during the competition was 6.1 ± 1.1 hours, with notable intra- and inter-individual variation in sleep outcomes. A Mann-Whitney U test revealed that total sleep time was shorter in male (Mdn = 5.6 hours, IQR = 5.1 to 6.5 hours) than female (Mdn = 6.8 hours, IQR = 6.1 to 7.2 hours) competitors ($Z = 4.17$, $P < 0.001$). These results indicate a high prevalence of poor sleep among international event riders, with characteristics exceeding those of other athlete populations assessed with the ASSQ. Furthermore, short sleep durations were also common during competition, particularly in male eventers. Therefore, understanding the factors underlying these findings, implementing structural changes, and designing targeted interventions to improve sleep practices in eventing is essential.

D2.P3 An evaluation of the soccer talent ID workforce in England: life histories and learning journeys

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Developing and understanding the workforce is essential in being able to adapt, refine, and deliver continuing professional development for that workforce (Thistlethwaite et al., 2019, *Journal of Interprofessional Care*, 33, 361-368). Sport organisations that have well-managed training and development programmes can more easily retain employees and provide future leaders for the organisation. The aim of this study was to gather and analyse the perspectives of those within the soccer Talent ID profession. With institutional ethics approval 85 participants from men's, women's, and disability soccer were invited to complete an online survey consisting of demographic data, work history, learning history as well as barriers and facilitators to development within the workforce. Within the 5-point Likert scale positive responses were classified as 'likely' and 'very likely'. Differences between full-time and part-time employers were examined using independent sample t-tests. Statistical significance was set at $p < 0.05$. The workforce is male dominated (91%) with few under the age of 30y (14%) and over half part-time (54%). There were no statistically significant differences in demographics between part-time or full-time roles ($p > 0.05$). Over two thirds of the workforce (68%) see a pathway for them to progress within the workforce and a large percentage feel valued in their workplace (85%). Nearly all participants (94%) have an FA TID qualification, with most of these at level 1 and 2. Differences in education and skills between full time and part time roles were non-significant ($p > 0.05$). Technical

knowledge is perceived as the most important skill required to be successful in TID but playing experience and qualifications least important. A range of informal learning was identified with 11% of using the FA Learning portal and 30% seeking knowledge gain via podcasts and webinars. Only 45% felt confident identifying psycho-social qualities but nearly two thirds were confident that they could predict future talent. As the workforce is predominantly part-time they are hard to reach, and male biased with small female and disability sectors. The workforce feels valued but a third cannot see a career pathway. The main perceived barriers to progressing in the workforce were holding a strong network in soccer, the potential to take qualifications that prepare for higher roles, and a lack of full-time opportunities. Establishing 'pods' to share knowledge regarding working in the TID job market through the talent ID courses and mentorship programmes could be one solution to development within the workforce.

D2.P4 Relationship between fundamental movement skills, fitness and ACL injury risk in grassroots footballers aged 11-13 years

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Anterior Cruciate Ligament (ACL) injury during childhood can cause significant long term negative impact on physical activity and health. Although pediatric ACL injuries have historically been uncommon, there has been a distinct increase in pediatric ACL injury prevalence since 2005 leading to calls for research examining correlates of knee injury risk in children (<14 years). Lack of competence in fundamental movement skills (FMS) has been suggested as a possible contributor to increased ACL injury risk (Heering et al., 2023, *Physical Therapy in Sport*, 61, 37-44). This is because well developed FMS could lead to better motor control during specialised movement performance resulting in lower likelihood of injury. No study to date has examined the association between competence in FMS and ACL injury risk. This study addressed this issue. Following ethics approval and informed consent, 34 boys, 11-13 years of age (Mean \pm SD = 11.7 ± 1 years, 154.4 ± 10.4 cm, 43.5 ± 9.9 kg) took part in the study. To be eligible, children had to be registered (and playing) with a grassroots soccer club with at least 1 year playing experience prior to participation. Maturity offset was determined using the Moore et al (2015, *Medicine and Science in Sports and Exercise*, 47, 1755-1764) prediction equation. ACL injury risk was determined using the landing error scoring system (LESS, Padua, et al., 2015 *Journal of Athletic Training*, 50, 589-595) and FMS was assessed using the Test of Gross Motor Development-3 (Ulrich, et al., 2020, TGMD-3 examiner's manual. Indianapolis, ProEd). Sprint speed (5,10,20m), counter movement jump height and change of direction speed (5-0-5 test) were determined. To