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Race profiles of rowers during the 2014 Youth Olympic Games

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Aim: Strategy plays a relevant role. The purpose of this study was to analyze the race profiles of youth athletes competing at the 2014 Youth Olympic Games over a distance of 1000-m.

Methods: According to the competition outcome of sculling and sweep events, 48 male and 48 female youth (17–18 years) rowers were divided in medallist (W), not medallist (NW), qualified (Q) and not qualified (NQ) athletes. Time at 0–500 m (T1) and 500–1000 m (T2) was considered. The average speed for T1 and T2 were normalized in relation to the average speed of the whole race. ANOVA for repeated measures was applied to performance 1xJ and 2-J during qualifying: 2 (sex: females vs. males) × 2 (outcome: qualified vs. not-qualified), repêchages and semi-finals: 2 (sex: females vs. males) × 2 (outcome: FB vs. NFB) × 2 (boat: 1xJ vs. 2-J) and final: 2 (sex: females vs. males) × 2 (outcome: M vs NM) × 2 (boat: 1xJ vs. 2-J).

Results: Qualifying 1xJ show a difference ($F_{(1, 44)} = 57.76$, $p < 0.001$; $ES = 0.75$) and emerged only between competition sectors, with higher values for T1 ($101.9 \pm 1.7\%$) respect to T2 ($98.1 \pm 1.7\%$). Similarly, for repêchages and semifinals phase 1xJ and 2-J, a difference ($F_{(1,40)} = 31.8$, $p < 0.001$; $ES = 0.57$) was found between competition sectors, with highest values for T1 ($101.6 \pm 2.3\%$) and lowest for T2 ($98.4 \pm 2.3\%$). For the final phase of the 1xJ and 2-J competitions, no main effect was found. In repêchages and semifinals, rowers adopting a positive strategy (88%), while during the final phase medallist (67%) adopting a negative strategy.

Conclusions: in this study emerges that athletes who adopted a negative strategy had more chance of winning respect to athletes who adopted a positive strategy.

Reference

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High intensity interval Training (HIIT) and actigraphy-based sleep behaviour in soccer players: the chronotype effect

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Aim: The 4 × 4 min of interval running is one of the widely used methods that have been demonstrated to improve soccer performance (Helgerud et al. 2001). Monitoring the effects of this type of training on sleep behaviour and assess the chronotype of soccer players could provide useful information to make evidence based decisions when

planning HIIT sessions. Therefore, the aim of this study was to assess the effect of chronotype on sleep behaviour in relation to HIIT performed at different times of the day.

Methods: In a cross-sectional study, 23 male recreational soccer players compiled the MEQ questionnaire to assess their chronotype (Horne and Ostberg 1976). Subjects were categorized in Morning-types (M-types, N = 12) and Evening-types (E-types, N = 11) and performed, both at 08:00 and to 20:00, an aerobic interval training protocol consisted of four times 4 min at 90–95% of maximal heart rate with a 3-min jog in between. A 5-days actigraph monitoring was conducted to detect nocturnal sleep PRE and POST 4 × 4.

Results: Sleep behaviour did not differ in relation to chronotype after the 4 × 4 performed in the morning. Nevertheless, M-types decreased significantly their Sleep Efficiency, Immobile time and Actual Sleep Time ($p < 0.05$) and increased the Actual Wake Time ($p < 0.05$) after the 4 × 4 performed at 20:00 while E-types did not modify their sleep parameters.

Conclusions: The chronotype influences negatively sleep behaviour in relation to HIIT performed in the evening only for M-types. Soccer players classified as E-types showed less variations in sleep parameters after high intensity training.

References

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Physical activity and physical fitness of the adolescent. Health promotion in school, family and community

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Aim: Motor development in children depends on several interdependent factors (Malina,2004) and daily physical activity levels affect the learning of skills and the development of motor abilities. Physical education at school is a significant contribution to increase levels of physical activity and learn motor skills (Lonsdale et al. 2013). The purpose of the study is to assess the evolution of motor abilities, strength, endurance and levels of physical activity of a sample of young people attending the school in relation to differences in body mass index (BMI).

Methods: The sample is 327 students of secondary school divided according to age differences (M 12 ± 0.89), sex and BMI (M = 158; Nw 17.77 ± 0.57 ; Ow-Ob, 27.77 ± 0.12 ; F = 169; 18.68 Nw 18.68 ± 1.68 ; Ow-Ob, 26.52 ± 0.60). Five motor tests (standing long jump; shuttle run 10x5; hand grip; sit up; 6 min walk test) and self-reports PAQ_C were performed.

Results: Apart from the descriptive statistics (M ± DS), Student's T Test was carried out, in order to highlight the significant differences within the group. The significativity index was set to $p < 0.05$. ANOVA 2 (sex) × 2 (group) showed significant differences in the