

RESULTS: At 60% Vpeak, we not observed differences in SEES scale. At 85% Vpeak, the Fatigue subscale show similar responses between the groups, were an increased in IA when compared to B ($p < 0.001$ to both). The feeling Scale results show that to control group, when 60% Vpeak was compared with 85% Vpeak intensity, the first one intensity was pleasurable, while the second one was unpleasurable (3.10 ± 2.33 vs -1.90 ± 3.51 ; $p = 0.002$ respectively). To the exercise addiction group, both intensities was classified as pleasurable (3.00 ± 1.82 vs 1.00 ± 4.43 ; $p = 0.13$).

CONCLUSION: The data suggest that both exercise intensities moderate and intense (independent of fatigue state) are capable to promote well-being and pleasure in exercise addiction subjects, while to the controls group, feeling pleasure was observed only in moderate intensity.

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Student-athletes' Experience And Perception On Migration In Dual Career: The Amid Project

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Migration across borders in the European Union (EU) can promote beneficial career development in many elite sports. For student-athletes pursuing tertiary education the relocation of residence could involve challenges due to the variety of national policies. To overcome drop outs and decremental performances in Dual Career (DC) migration, the identification of the challenges faced by migrating student-athletes is a crucial aspect.

PURPOSE: To investigate student-athletes' perception on current conditions, challenges, and recommendations on migration.

METHODS: A 50-item questionnaire, assessing demographic data, history and progress in DC, experiences in migration, support measures and their perceived effect, needs and recommendations, was developed, validated, and filled in by 223 student-athletes. Differences in quantitative data from 5-point-Likert scales were tested by means of Kruskal-Wallis ($p < .05$).

RESULTS: 52% of the sample (age = 23.5 ± 4 yrs, sports practice = 16.8 ± 8.2 hrs/week) already relocated for the academics (26%), sports (33%), or both (41%) paths of their DC and could report their specific experiences in support measures and challenges ($\chi^2(4) = 2.11$, $p = .72$). Among these, 49% received financial support ($\chi^2(4) = 19.57$, $p < .001$), 38% of it from the family.

Decreases in performance were found in sports when relocating for academic reasons (2.2 ± 1.1 points; $\chi^2(4) = 6.65$, $p = .08$) and in academics when relocating for sports (3.3 ± 1.3 points; $\chi^2(4) = 2.25$, $p = .69$). Difficulties emerged in attendance at university (69%; $\chi^2(4) = 15.55$, $p < .01$), exam (44%; $\chi^2(4) = 2.19$, $p = .70$) and training (37%; $\chi^2(4) = 3.36$, $p = .50$) schedule.

CONCLUSIONS: The high percentage of relocating student-athletes confirms the relevance of mobility in DC. Academics and sports can equally be the reason for relocation. Institutions in both fields should be aware and supportive in DC migration, especially due to a possible decrease in performance. In contrast with the targeted ideals of EU, the financial contribution from parents indicates that DC migration could be feasible mainly for wealthy parts of the society. However, major difficulties appeared also in non-financial issues that can be tackled by enhanced organization, tutoring, and cooperation between institutions.

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Cortisol and Testosterone Responses in Chess Players during an International Chess Tournament

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Chess is a strategic atypical sport and a highly cognitive task demanding mental and physical alertness, in which players are deeply committed and experience intense emotions. Evidence supports that chess elicits physiological responses and induces stress-associated hormonal changes.

PURPOSE: This study investigated potential changes in free salivary cortisol and testosterone in chess players during a tournament.

METHODS: Thirty male active chess players participated in the study (age: 43.2 ± 12.4 yrs, Elo score: 1903.2 ± 341.5), competing in a 9-round chess tournament (Swiss pairing system). Unstimulated mixed saliva samples were collected in salivate swabs at 3 time points: baseline, after the 2nd and 3rd round and, for the 10 finalists also after the 6th and 7th round (19:00-23:25 pm.). The saliva samples were analyzed for cortisol and testosterone by ELISA and student T-test was used for statistics.

RESULTS: Testosterone levels exhibited a trend of decrease, from 77.7 ± 105.1 ng/ml at baseline to 38.7 ± 46.6 ng/ml after the 2nd and 3rd round, to 25.3 ± 20.7 ng/ml after the 6th and 7th round, however without reaching statistical significance ($p > 0.05$). Cortisol levels increased from 4.4 ± 3.3 ng/ml at baseline to 7.6 ± 6.8 ng/ml after the 2nd and 3rd round in all participants ($p < 0.05$). In the 10 finalists, however, cortisol showed no significant changes through the 3 time points (from 3.5 ± 2.8 ng/ml to 6.0 ± 4.8 ng/ml to 5.3 ± 2.9 ng/ml; $p > 0.05$). Significant percentage changes of cortisol were found compared to baseline ($277 \pm 384.5\%$ ng/ml and $207.6 \pm 113.7\%$ ng/ml; $p < 0.01$). Interestingly, in the finalists, cortisol to testosterone ratio exhibited a significant increase only after the 2nd and 3rd round, from 0.1 ± 0.1 to 0.4 ± 0.3 ($p < 0.01$), contrary to the all participants' ratio, which declined from 1.4 ± 6.8 to 0.4 ± 0.3 ($p > 0.05$).

CONCLUSIONS: Our findings indicate that testosterone levels are not significantly affected by the stress of the game in contrast to cortisol levels, which are significantly increased.

Interestingly, although cortisol levels of top chess players (finalists) did not show significant changes during the tournament, however their cortisol to testosterone ratio was elevated after the first rounds, implying an increased physiological stress of these players at the beginning of the tournament.

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Association Between Menstrual Dysfunction, Bone Stress Injuries and Risk for Disordered Eating in Female Collegiate Athletes

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(No relationships reported)

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PURPOSE: The purpose of this study is to evaluate the association between menstrual dysfunction (MD), bone stress injuries (BSI) and risk for disordered eating (DE) in female collegiate athletes.

METHODS: 79 division III collegiate female athletes, of all fields of sport, participated in a retrospective cross-sectional questionnaire where self-reported menstrual history, eating behaviors, and history of musculoskeletal injury data were collected.

RESULTS: 12.6% of athletes reported MD, 16.5% of athletes were found to be at risk for DE, and 17.9% reported a history of BSI. Of the 14 athletes that had a BSI, 20% ($n = 2$) also had the presence of oligo/amenorrhea, although results were not significant. Of athletes who had DE, 30.8% ($n = 4$) of athletes also reported having oligo/amenorrhea ($p = 0.05$). 19.1% ($n = 9$) of athletes who reported ever having used oral contraceptive pill (OCP) also reported having a BSI. 21.2% ($n = 11$) of athletes that have ever used any hormonal contraceptive method ($n = 52$) also reported having a BSI, however no significant difference existed between the two groups ($p = 0.297$).