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Relationship Between Exercise Motivation, Exercise Enjoyment, and Daily Cognition of Collegiate Student-Athletes

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Exercise can have a profound effect on the levels of neurotransmitter in the brain following a workout, which can influence brain functions throughout the day, such as cognition. How much someone enjoys exercising and their motives to exercise can also have an impact on these benefits. Most research has focused on acute benefits to cognition, often executive functioning. However, less research has explored the benefits to general cognitive functioning throughout the day, including in the athletic population. **PURPOSE:** To investigate the relationship between exercise and cognitive functions, motivation, and exercise enjoyment in Division 2 student-athletes. **METHODS:** Fifty-seven Division 2 student-athletes (38 female, 19 male) between 18 and 25 yrs consented to participate in this study. Participants completed the following questionnaires: Behavioral Regulations in Exercise Questionnaire (BREQ-3), Physical Activity Enjoyment Scale (PAES), Attentional Function Index (AFI), and a demographic measure. Pearson correlations were performed to determine if any relationships existed between the various forms of motivation (BREQ-3), exercise enjoyment (PAES), and daily cognition (AFI). **RESULTS:** Results revealed that amotivation was positively correlated with attentional lapses ($r=.32$, $p=.017$) and negatively correlated with enjoyment ($r=-.31$, $p=.019$). Enjoyment was also positively correlated with all internalized forms of motivation: identified regulation ($r=.43$, $p<.001$), integrated regulation ($r=.27$, $p=.044$), and intrinsic motivation ($r=.37$, $p=.005$). The effective action subscale was positively correlated with enjoyment ($r=.42$, $p=.001$) and two of the three internalized forms of motivation: identified regulation ($r=.38$, $p=.004$) and intrinsic motivation ($r=.41$, $p=.002$). **CONCLUSION:** Results showed that student-athletes who are self-motivated to exercise and enjoy exercising also have better cognitive functions throughout the day. In contrast, amotivation towards exercise is linked with increased distractibility throughout the day.