A STUDY OF COGNITIVE FUNCTION AND ATTENTION IMPROVEMENT USING STROOP AND FLASH CARD TESTS IN FARTLEK SPORTS

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The main purpose of this study was to explore the mechanism of training intervention in fartlek sports. The hypothesis of this study was that if participants were trained, there would be significant improvement in cognitive function and concentration. The participants were first-year male high school students. They were divided into experimental and control groups with 15 students each (n = 15, mean age M = 15.58 years, SD = 0.4). The first experiment investigated whether there was a positive increase in cognitive function. For the measurement we used a 10 × 10 grid of the STROOP test, recording the reading time. The second experiment involved an attention test that used flash cards shown every 0.5 seconds. The correct answer was recorded as 1 and the wrong as 0. The control group proceeded without exercise. The experimental group practiced fartlek sports for 10 minutes. We divided the test into the pre-test part and post-test part (done after 6 hours) to retain the experience and avoid forgetting. To process statistical data, we used SPSS 21.0. The significance level was set to p < 0.05. We analysed two independent samples using parametric and nonparametric statistics. The result of ANOVA(2 × 3) analysis for the first test, called the STROOP test, showed that the experimental group was the most significant (p = .00). The second test applied 2 × 2 nonparametric factor analysis, called the FLASH Card test, and it showed that the experimental group was the most significant (p = .000). In conclusion of this study, we could confirm what scholars discussed about the improvement of competitive fitness in the related literature. Fartlek sports involve speed-varying movement, and this in turn requires coordination and agility, as well as good reaction time (RT), so that training has an effect.

Keywords: Fartlek sport, Cognitive, Attention, Improve, Reaction time.