

# Effects of Mental Fatigue Induced Using the Smartphone on Physical & Technical Performance of Footballers: 1372 Board #180 May 31 900 AM - 1030 AM

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C-42 Free Communication/Poster - Correlates and Behavioral Aspects of Sport Thursday, May 31, 2018, 7:30 AM - 12:30 PM Room: CC-Hall B

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Mobile devices (i.e., smartphones and tablets) have acquired important functions in both interpersonal and individual spheres. For this reason, they can cause a true dependence for the young people. Moreover, prolonged periods of cognitive activity induce mental fatigue, a psychobiological state which influences the performances in team sports.

**PURPOSE:** The purpose of this study was to assess the effects of prolonged use of smartphones on physical and technical performance of young footballers.

**METHODS:** In total, 16 young male footballers ( $15.0 \pm 1.1$  years) were randomly assigned to two studies, Study 1 (S1, n=8) or Study 2 (S2, n=8), in which the Yo-Yo Intermittent Recovery Test level 1 and the Loughborough Soccer Passing Test were performed, respectively. The soccer-specific physical and technical performance was assessed for S1 and S2. In both studies, the participants underwent to mental fatigue through the use of smartphones (Brain It On App) for 30 minutes, and to the control condition (normal activities) after at least 48 hours. A crossover study design and a paired t-test ( $p < 0.05$ ) were used.

**RESULTS:** S1 performed shorter running distances in the state of mental fatigue than under the control condition ( $1610 \pm 135$  vs.  $1780 \pm 249$  m,  $\Delta -10.56\%$ ,  $p = 0.046$ ). In addition, mental fatigue significantly increased the performance time in S2 compared with the control condition ( $51 \pm 6$  vs.  $43 \pm 2.2$  s,  $\Delta +15.7\%$ ;  $p = 0.003$ ).

**CONCLUSION:** Our findings suggest that prolonged use of smartphones, which causes mental fatigue, can reduce the physical and technical performance of young footballers. Therefore, it is necessary to educate to the conscientious use of technology.

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