

## Influence of performance in mountain bike discipline on the overall adventure sprint race performance

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### Abstract

Present study aimed to analyze the relationship between athletes' performance in mountain bike discipline and their overall performance during an adventure sprint race. Thus, 09 teams composed by athletes' pairs ( $n=18$ ,  $39.0 \pm 1.8$  years) performing an official 44-km adventure race were volunteers of present study. We observed the mountain bike velocity ( $15.9 \pm 0.8$  km/h) was significantly correlated ( $R=0.78$ ,  $P=0.01$ ) to overall race velocity ( $9.9 \pm 0.4$ h) performed by teams during the competition.

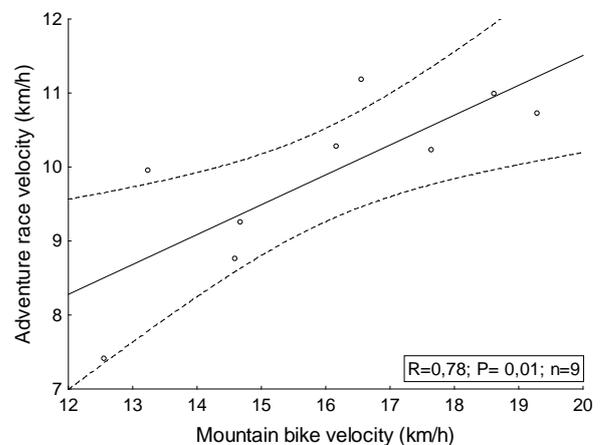
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### Introduction

The adventure race is a sport composed by a combination of many sports disciplines (mountain bike, canoeing, trekking, orienteering, rappelling and others) performed in an intense interaction with different nature environments (PALERMO et al. 2014). The duration of trekking and mountain bike disciplines on the overall adventure race is higher than others disciplines (MIORANDO JUNIOR, et al. 2008), however, the influence of performance during these disciplines on the overall race has been scarcely studied in the literature. Thus, the present study aimed to analyze the possible relationship between athletes' performance in mountain bike discipline and their overall performance during an adventure sprint race.

### Results and Discussion

Nine teams composed by athletes' pairs ( $n=18$  athletes, 15 men and 03 women,  $39.0 \pm 1.8$  years old) performing an official 44-km adventure race in Sao Paulo State/Brazil were volunteers of present investigation. Race was composed by trekking, canoeing, rappelling and mountain bike disciplines, being the routes performed in this last discipline totalized 27-km during the race. Records of time during mountain bike discipline and overall race were obtained by the official race reports, being the correspondent velocities were calculated as performance indexes. Pearson's correlation coefficient was used for analyzing the possible relationship between mountain bike velocity and overall race velocity performed by athletes' teams whereas statistical significance was set at  $P < 0.05$  (Statistic 7.0). Therefore, we observed the mountain bike velocity ( $15.9 \pm 0.8$  km/h) was significantly correlated to overall race velocity ( $9.9 \pm 0.4$ h) performed by athletes' team (Figure 1).



**Figure 1** Correlation between mountain bike velocity and overall race velocity of nine teams performing a 44-km adventure race. Linear fit (solid line) and 95% of confidence interval (dashed line).

### Conclusions

Extending a prior study involving a simulated 34-km adventure race (MIORANDO JUNIOR, et al. 2008), we conclude that a higher performance in mountain bike discipline is possibly related to a better performance of athletes' teams during an official 44-km adventure race.

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