

Investigating the influence of acutely ingested Taurine and Montmorency Tart Cherry juice on Repeated Sprint Performance.

Laoise Bennis¹, Matthew Doyle², Keith Fanning², Brian P. Carson^{2, 3}



1 School of Agriculture and Food Science, University College Dublin
 2 Department of Physical Education & Sports Sciences, Faculty of Education and Health Sciences, University of Limerick, Limerick, Ireland
 3 Health Research Institute, University of Limerick, Limerick, Ireland

Introduction

Many field-based sports involve bouts of maximal or sub-maximal sprinting with short recovery periods (1). Repeated Sprint Ability (RSA) is an important characteristic of performance in numerous intermittent sports such as soccer, rugby, tennis and GAA (2). Any nutrient that has the ability to improve RSA in athletes is of potential benefit in competition. Recent literature searches suggest that amino acids (AA) and fruit juices, such as taurine (TA) and Montmorency tart cherry juice (MC), have a positive effect on sprint performance (3,4). However, the impacts of these bioactives on RSA are largely unknown.

Conclusion

After analysis of the current data, there was no significant differences in sprint decrement observed in either TA or MC trials. There were also no significant differences seen in the slowest, fastest or mean time to complete the sprints in both conditions. This could be attributed to incomplete testing due to Covid-19 restrictions, knowledge of study outcomes and/or diurnal variations across test days due to test location and participant availability.

Methods

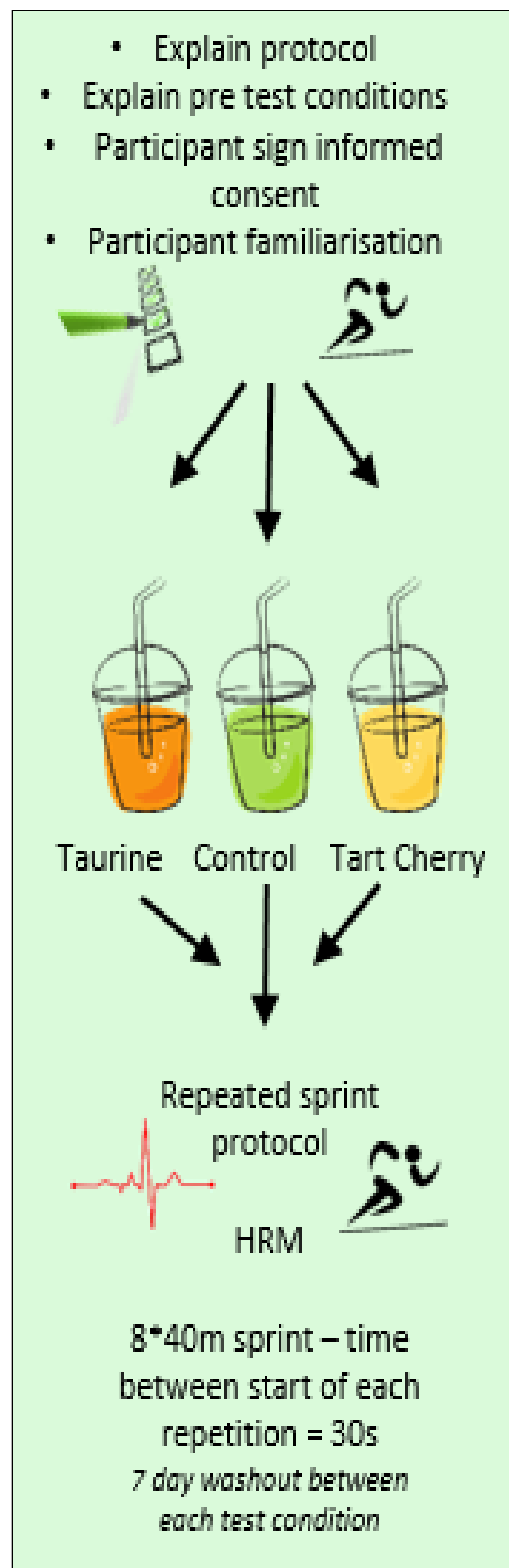


Figure 1 – Study design Participants completed one familiarisation session and three RSA trials using the 40 m maximum shuttle run test all trials were randomised and double-blinded.

Aims

- To investigate if acute supplementation with MC or TA have an affect on performance decrement in repeated sprint ability
- To analyse the magnitude of any observed changes

Results

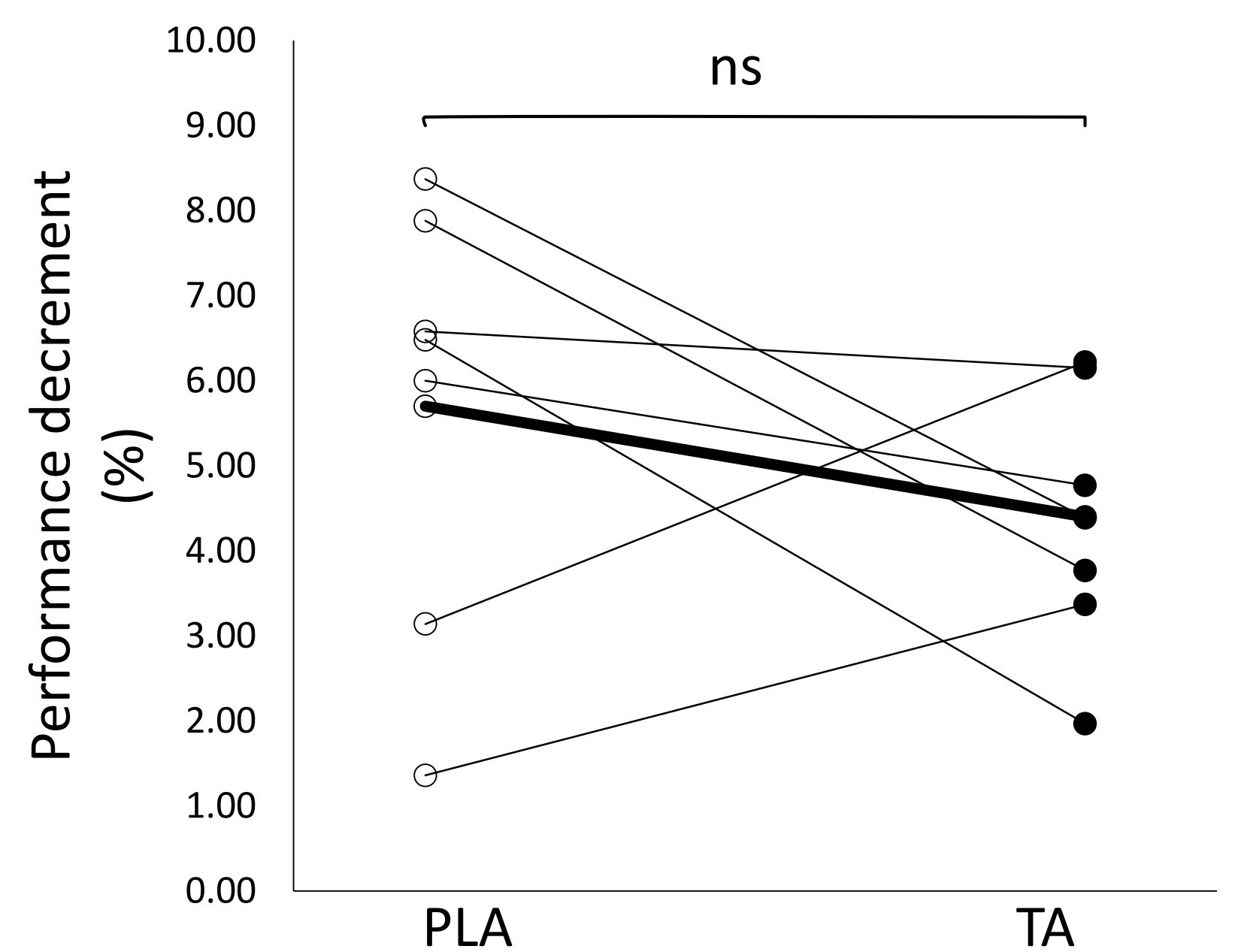


Figure 2 – sprint performance decrement (%) during the 40-m MST for PLA and TA trials. Individual data are shown with mean \pm SD. MST = maximal shuttle run test; ns = nonsignificant difference; PLA = placebo; TA = taurine.

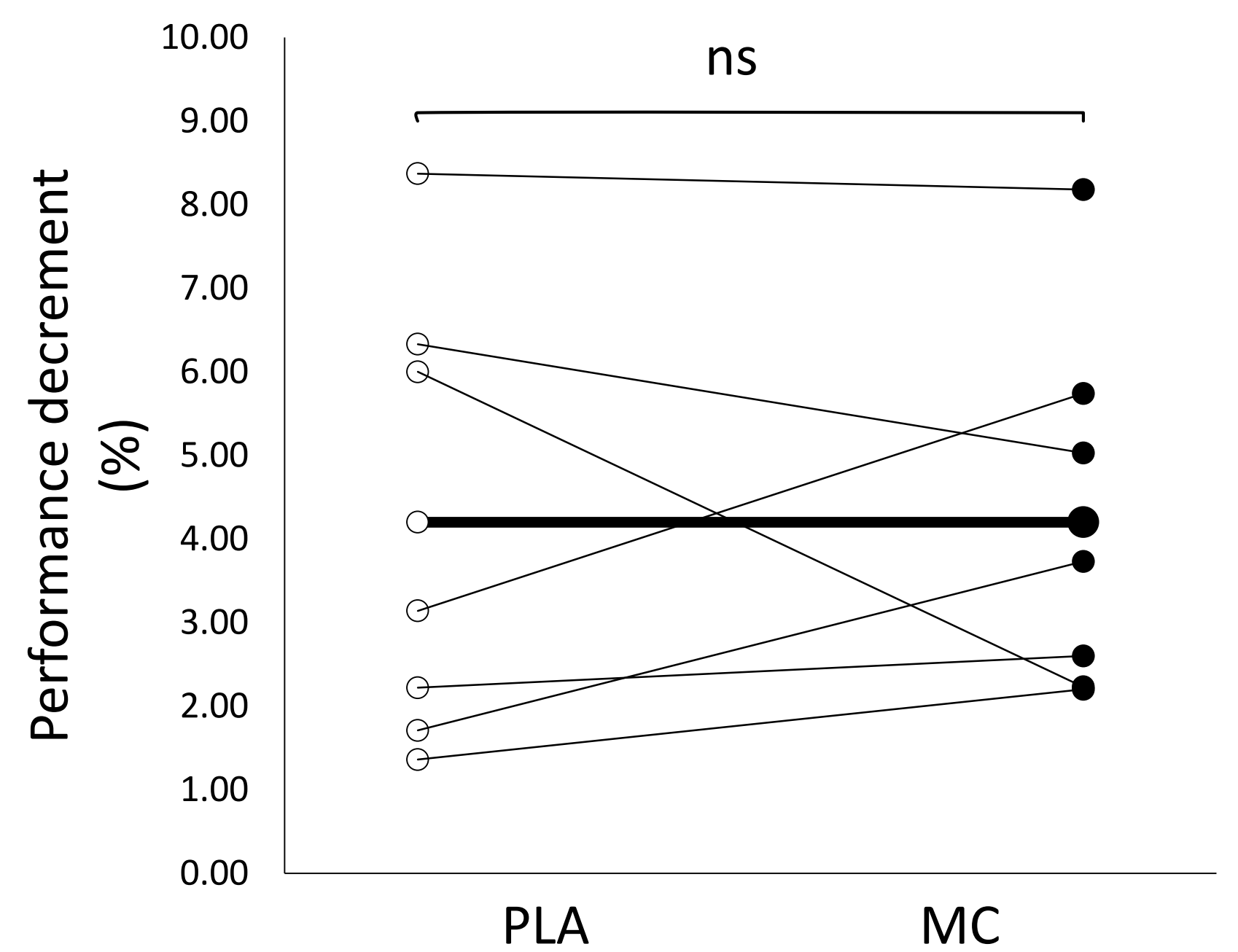


Figure 3 – sprint performance decrement (%) during the 40-m MST for PLA and MC trials. Individual data are shown with mean \pm SD. MST = maximal shuttle run test; ns = nonsignificant difference; PLA = placebo; MC = Montmorency tart cherry juice.

References

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Condition	Mean time	P	Fastest time	P	Slowest time	P
PLA ($\mu\pm\sigma$)	9.19 \pm .59	0.686	8.69 \pm .6	0.655	9.41 \pm .59	0.926
MC ($\mu\pm\sigma$)	9.24 \pm .44		8.74 \pm .45		9.43 \pm .57	
PLA ($\mu\pm\sigma$)	9.02 \pm .46	0.731	8.53 \pm .45	0.423	9.44 \pm .55	0.558
TA ($\mu\pm\sigma$)	9.06 \pm .39		8.68 \pm .36		9.32 \pm .43	

Figure 4 – Slowest, fastest and mean sprint times during the 40-m MST for PLA & TA and PLA & MC trials. Data expressed as mean \pm SD. P is the level of significance assessed through paired t-tests with all data being normally distributed