

# Intra and intersession reliability of the Run Rocket™ in recreationally trained participants

MARK GODWIN<sup>1</sup>, JOSEPH MATTHEWS<sup>2</sup>, EDWARD STANHOPE<sup>1</sup>, KIRSTY RICHARDS<sup>1</sup>

<sup>1</sup>*School of Sport and Creative Services, University College Birmingham, Birmingham, United Kingdom*

<sup>2</sup>*Department for Sport and Exercise, School of Health Sciences, Birmingham City University, Birmingham, United Kingdom*

## ABSTRACT

Sprint performance plays an important role in the success of many sports including track and field and team-based sports. Resisted sprint equipment has shown to be an effective method to increase sprint velocity and acceleration. The aim of the study was to determine the intrasession and intersession (7 days) reliability of a commercially available resisted sprint machine in recreationally trained individuals for two resistance settings. Fourteen recreationally active participants partook in the study (male = 10, female = 4) over a 7-day period. Three maximal 15m sprints, at two resistance levels (R0 and R5), were undertaken in a randomised order (6 sprints in total at each trial). Intrasession (comparison of the first 3 sprints for each trial) and intersession (mean of the 3 sprints for both trials) correlation coefficient (ICC), coefficients of variation (%CV), average variability, SEM and minimal detectable difference were calculated for 5 and 15m for both resistance levels. Intrasession reliability was very large to nearly perfect across both distances and resistance levels (ICC range .79 - .98), %CV ranged between 2.4 - 5.8% with larger values seen during the first trial for three of the four indices. Intersession reliability was very large to nearly perfect across all variables (ICC range .87 - .97), %CV was small and ranged between 2.0 - 4.1%. Average variability was small for all measurements. The Run Rocket™ showed high intra and intersession reliability. The results show that this equipment could be reliably used within a sprint programme for recreationally trained individuals.

**Keywords:** Athletic training; Sports performance; Exercise training.

### Cite this article as:

Godwin, M., Matthews, J., Stanhope, E., & Richards, K. (2021). Intra and intersession reliability of the Run Rocket™ in recreationally trained participants. *Journal of Human Sport and Exercise*, 16(1), 53-62. doi:<https://doi.org/10.14198/jhse.2021.161.05>

**Corresponding author.** School of Sport and Creative Services, University College Birmingham, Birmingham, B3 1JB, United Kingdom. <https://orcid.org/0000-0002-0929-5525>

E-mail: [m.godwin@ucb.ac.uk](mailto:m.godwin@ucb.ac.uk)

Submitted for publication September 25, 2019

Accepted for publication December 4, 2019

Published February 04, 2021 (in press January 13, 2020)

JOURNAL OF HUMAN SPORT & EXERCISE ISSN 1988-5202

© Faculty of Education. University of Alicante

doi:10.14198/jhse.2021.161.05