

# Intersession and intrasession reliability and validity of the my jump app for measuring different jump actions in trained male and female athletes

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The purpose of this study was to analyze the concurrent validity and reliability of the iPhone app named My Jump for measuring jump height in 40-cm drop jumps (DJs), countermovement jumps (CMJs), and squat jumps (SJs). To do this, 21 male and female athletes (age,  $22.1 \pm 3.6$  years) completed 5 maximal DJs, CMJs, and SJs on 2 separate days, which were evaluated using a contact platform and the app My Jump, developed to calculate jump height from flight time using the high-speed video recording facility on the iPhone. A total of 630 jumps were compared using the intraclass correlation coefficient (ICC), Bland-Altman plots, Pearson's product moment correlation coefficient ( $r$ ), Cronbach's alpha (?), and coefficient of variation (CV). There was almost perfect agreement between the measurement instruments for all jump height values (ICC 0.97-0.99), with no differences between the instruments ( $p > 0.05$ ; mean difference of 0.2 cm). Almost perfect correlation was observed between the measurement instruments for SJs, CMJs, and DJs ( $r$  0.96-0.99). My Jump showed very good within-subject reliability (? 0.94-0.99; CV 3.8-7.6) and interday reliability ( $r$  0.86-0.95) for SJs, CMJs, and DJs in all subjects. Therefore, the iPhone app

named My Jump provides reliable intersession and intrasession data, as well as valid measurements for maximal jump height during fast (i.e., DJs) and slow (i.e., CMJs) stretch-shortening cycle muscle actions, and during concentric-only explosive muscle actions (i.e., SJs), in both male and female athletes in comparison with a professional contact platform. © 2015 National Strength and Conditioning Association.

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