

Relationships Between Relative Power and Selective Measures of Performance in Male and Female Collegiate Basketball Players

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ABSTRACT

PURPOSE: The purpose of this study was to determine if a relationship exists between relative power and selected measures of linear, change of direction (CODS) and speed endurance in collegiate basketball players. **METHODS:** Archived testing data from 29 (male=14; female=15) NCAA division II collegiate basketball players were used for this analysis. Performance (i.e., lane agility, 10-yard sprint, and 300-yard shuttle run) data were assessed. Pearson's correlation coefficient was used to determine if significant relationships exist between relative power and the selected performance tests. All data were analyzed using a free open-source statistical software package (JASP, Version 0.11.1, Amsterdam, NL USA) and statistical significance was set *a priori* at $p \leq 0.05$. **RESULTS:** For males, a significant large correlation was found between relative power and lane agility ($r = -0.52, p = 0.05$), but no significant correlations were seen for 10-yard sprint times ($r = -0.36, p = 0.21$) or 300-yard shuttle run performance ($r = -0.34, p = 0.23$). Females showed no significant correlations between relative power and lane agility ($r = -0.25, p = 0.37$) or 10-yard sprint ($r = -0.47, p = 0.08$), but did show a significant large correlation with 300-yard shuttle run performance ($r = -0.64, p = 0.01$). **CONCLUSION:** The ability to generate high amounts of power is vital in high-intensity, intermittent team sports such as basketball. Specifically, the results of the present study indicate that the development of relative lower-body power may improve CODS and speed endurance performance in male and female collegiate basketball players, respectively. To optimize performance, strength and conditioning professionals may implement techniques to ensure all players can generate high amounts of power relative to their body mass.