

THE CORRELATION OF TRACK & FIELD DISTANCE RACING TO JUMPING PERFORMANCE

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Eliciting changes in distance runners becomes more of a challenge as aerobic training persists. Recently, studies suggest that resistance training may be a viable option in improving running efficiency in distance runners. Resistance training has demonstrated increases in jump performance and sprint performance but there is a lack of evidence in events of longer distance.

PURPOSE: The purpose of this study was to evaluate the relationship between jump performance and competitive race times in collegiate middle and long distance runners.

METHODS: Eleven male NCAA Division II Track & Field distance runners participated (age = 20.2 ± 1.3 years, height = 176.0 ± 5.6 cm, and mass = 65.7 ± 7.0 kg) in this study. Subjects completed a three jump test (measuring distance), countermovement jump (CMJ), and depth jump (DJ) from 20cm, 30cm, and 40cm drop heights. Jump height (JH), relative power (RP), work ratio (WR), and reactive strength index (RSI) were all calculated. In addition, race times in the 800m, 1,500m, 3,000m, 5,000m, and 10,000 were used for correlation analysis. **RESULTS:** Strong to moderate relationships between jumping tests and race times were found. R-values are as followed, with respect to the CMJ, 20cm DJ, 30cm DJ, and 40cm DJ, 800m & JH are -0.976, -0.151, -0.562, -0.708; 800m & RP are -0.660, -0.596, -0.552, -0.613; 1,500m & JH are; -0.947, -0.838, -0.962, -0.819; 1,500m & RP are -0.576, -0.616, -0.609, -0.638; 3,000m & WR are 0.170, -0.600, -0.843, -0.791; 3,000m & RSI are -0.032, -0.526, -0.633, -0.632; 5,000m & WR are -0.790, -0.816, -0.696, -0.802; 5,000m & RSI are -0.354, -0.827, -0.675, -0.674; 10,000m & WR are -0.859, -0.936, -0.755, -0.729; 10,000m & RSI are -0.793, -0.908, -0.980, -0.929.

CONCLUSION: Competitive middle distance runners demonstrate greater JH and RP, while more competitive distance runner's demonstrate greater WR and RSI.

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