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Assessment of Demographic, Anthropometric, and Physical Performance Variables as Predictors of Spring Cycling Power

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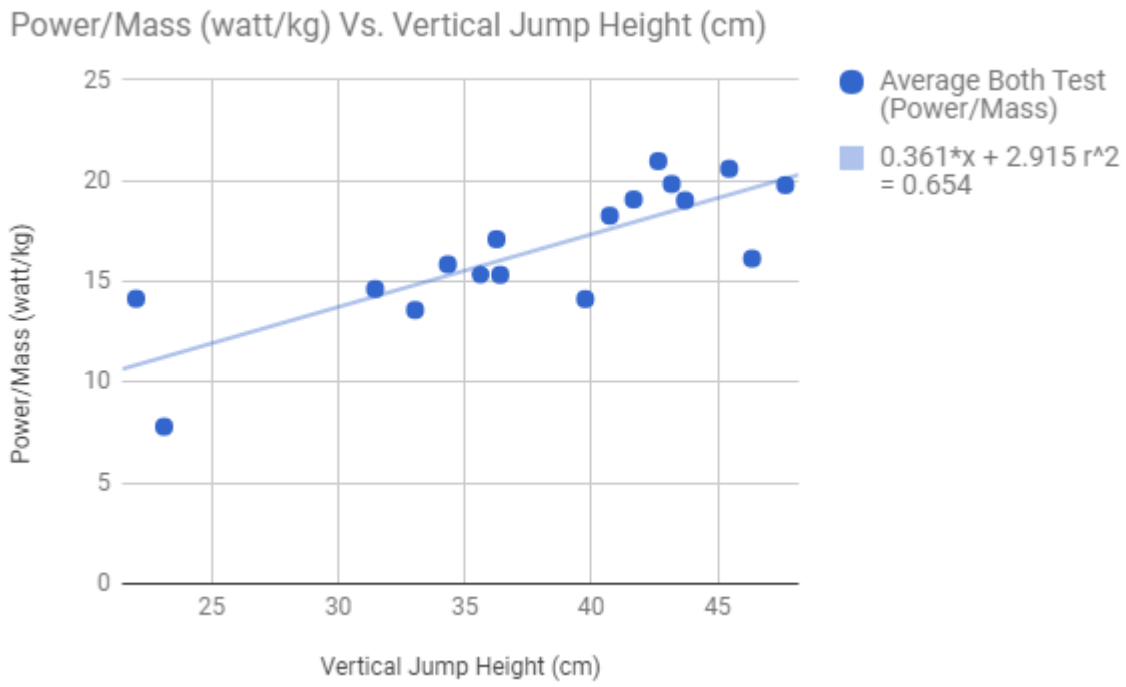
Prior research suggests peak sprint power (PSP) is correlated with cycling sprint times, indicating that individuals able to produce higher PSP demonstrate faster ride times. These faster ride times are indicative of better performance in sprint cycling competitions. **PURPOSE**: The primary aim of the study was to determine if a simple vertical jump height (VJH) test would correlate with PSP on a bike. It was hypothesized that a higher VJH would correlate with a higher PSP. **METHODS**: Trained cyclists were enrolled in the study and completed a VJH test, PSP test, and provided demographic and anthropometric data. Seventeen cyclists were enrolled in the study. Their age, mass, height, thigh circumference, and cyclist experience level (CEL) were collected (29.1 ± 17.2 years, 77.0 ± 13.3 kg, 172.8 ± 8.2 cm, 59.4 ± 4.8 cm, and 1.8 ± 0.9 CEL). Simple linear regression examined VJH as a predictor of normalized PSP. PSP was normalized by taking the PSP and dividing by the subjects mass. **RESULTS**: The average normalized PSP the subjects produced (16.7 ± 3.2 watt/kg) and average VJH (37.9 ± 7.5 cm) were plotted against each other in Figure 1.

Figure 1:



There was a significant positive correlation between VJH and PSP (r^2 = 65.4%). **CONCLUSIONS:** The results indicate that a higher VJH will indicate that a cyclist will have a higher normalized PSP.

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