PHYSICAL AND GOLF SWING PERFORMANCE OF YOUTH ACADEMY GOLFERS

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PURPOSE

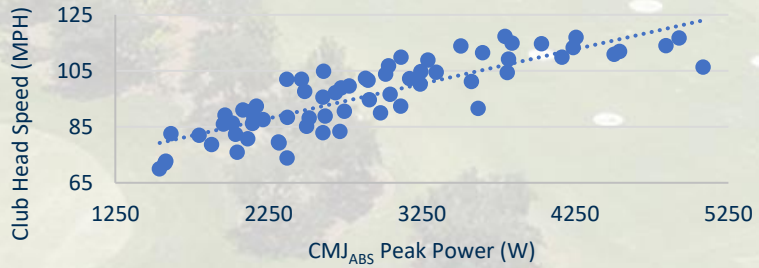
There is limited research examining the physical determinants of golf swing performance in youth golfers. Therefore, this study investigated the relationship between physical measures and golf swing performance, as well as differences between skill levels.

METHODS

Sixty-seven male and female youth golfers aged 12-18 completed a testing battery to measure strength (isometric mid-thigh pull (IMTP)), power (countermovement jump (CMJ)), grip strength (handheld dynamometer), and core strength (plank). Clubhead speed (CHS) and carry distance were measured with a Trackman system and the average of 10 driver swings were analyzed. A Pearson correlation was used to determine the relationship between swing performance (CHS and carry distance) and physical performance. Forty participants with a recorded scoring average on the Junior Golf Scoreboard were used for further analysis to determine differences between the top 10 and bottom 10.

PRACTICAL APPLICATIONS

- Lower body strength, power, and grip strength are important for swing speed and carry distance
- Coaches should aim to optimize swing technique in addition to improving strength and power



	Club Head Speed	Carry Distance
IMTP$_{ABS}$ (N)	0.52*	0.44*
IMTP$_{REL}$ (N/kg)	0.50*	0.38*
CMJ$_{ABS}$ Peak Power (W)	0.84*	0.70*
CMJ$_{REL}$ Peak Power (W/kg)	0.69*	0.61*
CMJ Jump Height (cm)	0.74*	0.68*
Grip Strength R - (PSI)	0.70*	0.63*
Grip Strength L - (PSI)	0.74*	0.65*
Plank (s)	0.19	0.23

RESULTS

There were large to very large significant correlations between CHS and all physical characteristics besides the plank (r = 0.50-0.84). There were moderate significant correlations between carry distance and IMTP$_{ABS}$ (r=0.44) and IMTP$_{REL}$ (r=0.38) and large significant correlations between the jump metrics (r=0.61-0.70) and grip strength (r=0.63-0.65). The top 10 youth golfers of the subset of 40 had a significantly lower scoring average (73.5 vs 85.3), significantly faster CHS (103.1 vs. 94.9 mph), and significantly greater carry distance (239.5 vs 199.5 yds). There were no significant differences in physical performance between the groups.

CONCLUSION

Strength, power, and grip strength are related to swing performance in youth golfers. More skilled golfers swing faster and hit the bar further than less skilled golfers, contributing to a lower scoring average.