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suggested that 32.5% of the variance in carry were present within sessions (level 1), whilst 38.0% were attributed to differences in carry between sessions (level 2). Results from the second MLM generated an improved model fit (-2 LL & BIC) where peak speeds of the pelvis, thorax, and lead upper arm were included as fixed effect covariates on level 1. The result showed that peak LAS was a statistically significant predictor of carry ($\beta=0.17$, $p=0.001$) whereas peak speed of neither thorax ($\beta=-0.04$, $p=0.364$) nor pelvis ($\beta=0.02$, $p=0.673$) had any statistically significant relationship with carry.

Discussion: The present study found that 32.5% of variation in shot consistency can be explained at the within session level (influenced by for example variance in centeredness of impact), and 38% of variation in shot consistency can be explained at the between session level (influenced by for example environmental factors). Furthermore, LAS was the only significant predictor of within session variance in carry. Our results indicated peak LAS speed as a predictor of within session variance in carry and this is partly supported by previous research who found golfers with higher arm speed had higher ball velocity than golfers with lower arm speed(Healy et al., 2011). However, results from our pilot study differ from previous research which reports a relationship between peak thorax speed and driver performance. The difference could be due to our results being based on longitudinal data at intra-individual level, whereas previous studies have used a cross-sectional study design, different analysis methods and reported at an inter-individual level. In conclusion, our preliminary data show that within session LAS is a predictor of carry distance when the objective is shot consistency. Practitioners may consider training strategies to optimize arm speed when improve driving consistency among elite golfers.

References