



ABSTRACT

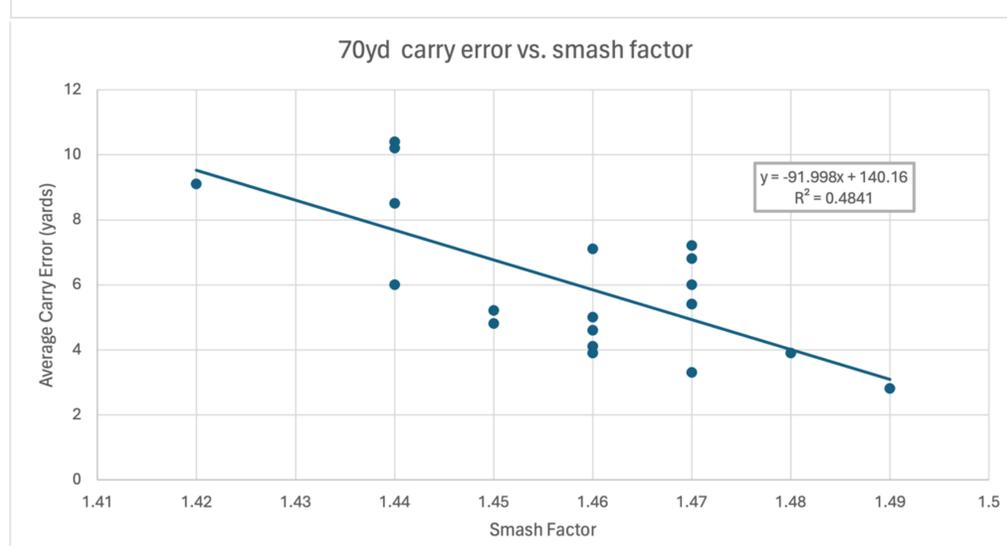
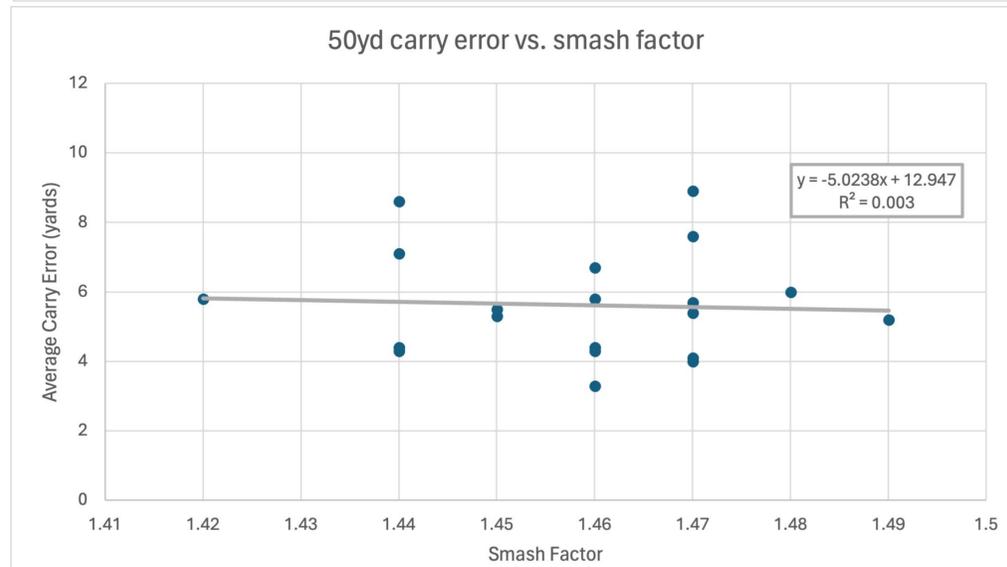
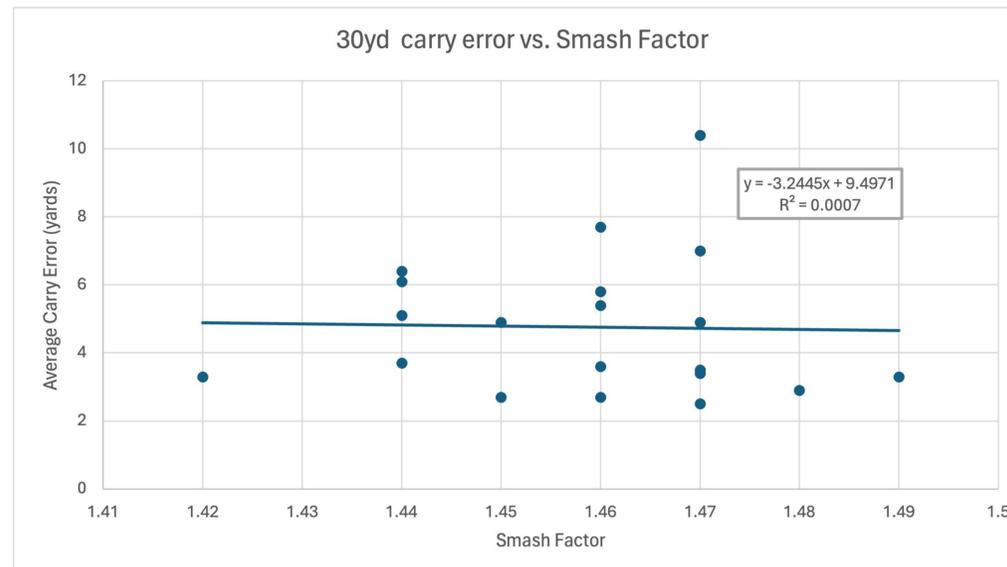
PURPOSE: This study investigates the relationship between smash factor (ball speed/swing speed) with a driver swing and carry error with a wedge shot. **METHODS:** 20 Participants (3 women, 17 men, 23.9 ± 7.7 years (age), 177.0 ± 8.9 cm, 83.8 ± 27.7 kg, 9.3 ± 6.0 handicap) completed 10 driver shots with maximum club speed, in addition to 10 wedge shots targeting each carry distance of 70-, 50-, and 30-yards (40 total swings). Swing speed, ball speed and carry distances were measured by a commercial golf simulator (SKYTRAK, GolfTec, Englewood, Colorado). The 5 best smash factors were averaged for each participant and compared to their average carry error for 70-, 50-, and 30-yard shots. **RESULTS:** There was a significant positive relationship between smash factor and 70yd carry error ($y=91.998x+140.16$, $R^2 = 0.4841$, $p<0.05$). There were no significant relationships between smash factor and carry distance error for 50- and 30-yard target distances. **CONCLUSION:** These findings suggest that smash factor is more related to carry distance accuracy during a higher effort shot compared to a submaximal distance control shot. Smash factor, which represents an effective contact between club and ball, does not account for appropriate swing speed during submaximal distance targets. **PRACTICE APPLICATION:** Thus, minimizing carry distance error for submaximal distance control may require additional skills beyond effective contact, such as swing speed and dynamic loft control. **ACKNOWLEDGEMENTS:** none

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WORKS CITED

Cole MH, Grimshaw PN. The Biomechanics of the Modern Golf Swing: Implications for Lower Back Injuries. Sports Med 46(3): 339–351, 2016.

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