

## **Abstract**

**Title:** Impact Factor Analysis of Elite Level Golfers

**Objectives:** The aim of the work was to analyze and evaluate the impact factors for different hitting distances in elite male and female golfers.

**Methods:** The research involved 40 boys and 20 girls, aged 13 to 22, who have been elite-level players, regularly playing and placing in leading Czech amateur tournaments and national championships. The research was conducted using the Combine Test test battery and consisted of a total of ten different types of shots. Nine of them were focused on distance accuracy, where the test player gradually tried to play a shot that lands (so-called Carry distance) exactly at the prescribed distance. The prescribed distances in the test were 55 meters, 65 meters, 75 meters, 85 meters, 95 meters, 105 meters, 125 meters, 145 meters and 165 meters. The last tenth shot was a driver shot, where the ratio of the shot distance and the accuracy of the shot is evaluated. The truth of the hypotheses was verified using the Wilcoxon paired test in the RStudio program.

**Results:** Differences were found in the comparison of impact factors between male and female players. In each distance category, men were slightly more accurate than women, with significant differences of up to 10 meters for long shots, from 145 meters and more. For driver shots, the difference between men and women was 48 meters in favor of men. Furthermore, differences in impact factors were found between male players with low and high handicaps, with men with lower handicaps scoring approximately 3.65 points more than players with higher handicaps at each distance, with the largest difference being at the 55-meter shot, where low-handicap players scored 8.33 points more than players with higher handicaps. The difference in impact factors between low- and high-handicap female players was even more pronounced, with lower-handicap players averaging 9.93 points more than higher-handicap players, and the largest difference was at 165 meters, with higher-handicap players 31.92 points worse.

**Key words:** testing, combine test, drive, impact, golf handicap