Correlation between Quality of Golf Drive and Impact Sensation in Dependence of Shaft Weight and Shaft Flexibility

Abstract:
Club fitting and especially the customization of the shaft is a major issue in golf. Shaft fitting commonly uses a set of material parameters (i.e. bending stiffness) and dynamic parameters determined during the golf swing. However subjective parameters, such as impact sensation are not much considered. N=20 young male players with a handicap of 0-10 took part in a pairwise comparison experiment (Böhm, Krämer and Senner, 2009) rating the perceived sensation of four different drivers (same club head but different in shaft weight and flexibility). Each subject performed a total of 36 shots of which the quality was quantified using club head speed, repeatability, reached distance and achieved accuracy of the shot. Correlation between subjective and objective data was calculated and ANOVA was performed to analyze for differences between the four clubs with respect to the above quality criteria. No significant differences were found between the four drivers what concerns club head velocity (average of 117.8 mph). However higher shot quality and better shot
sensation have been achieved (p<0.05) when using the two regular (softer) shafts compared to two stiff shafts. It is concluded that the achievable club head velocity seems to be inappropriate as single criterion for individual shaft fitting. This scientific investigation clearly shows the benefit of a holistic club-fitting method including subjective issues. It disproves the widespread theory “The faster you swing, the stiffer your shaft should be” (Wishon and Grundner, 2008, p. 25) and reveals new aspects to consider in club fitting.

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