Abstract

Title: Grip Strength Comparison of Czech national team Greco-Roman Wrestlers

Objectives: The aim of this thesis is to compare measured hand grip strength values among members of the Czech national wrestling team and to determine how this value is predicted by weight category. Furthermore, it aims to assess whether there is a difference between participants who actively train grip strength and those who do not. Lastly, it examines the extent of the difference in absolute grip strength between the dominant and non-dominant hand and how this difference compares to that of the general population.

Methods: The synthesis of findings in this thesis was conducted through a critical narrative review of scholarly literature focused on wrestling, grip strength, and the relationship between these two topics. Grip strength was measured using a Grip-D digital dynamometer. The results were analyzed using a linear regression model, paired t-test, and independent t-test.

Results: The relationship between weight category and grip strength performance is statistically significant (p = 0.008), with weight category predicting 42.1% of grip strength performance (R^2 = 0.421). The effect of grip strength training on performance was not statistically significant (p = 0.269), but indicates practical significance (Cohen's d = 0.481). Lateral differences are statistically significant (p = 0.013), with an average performance difference of 3.06 kg in favor of the dominant hand.

Keywords: wrestling, strength, technique, grip,weight, category, training, laterality