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Poster Presentation

The Effects of Elastic Band Assistance During Chin-Ups

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PURPOSE: The purpose of this study was to test the effectiveness of band resistance during exercise. This research investigated the differences between unassisted and two different elastic band assistance methods upon the chin-up exercise.

METHODS: Thirty-three (M= 26, F= 7) participants volunteered for the study and completed a university IRB approved informed consent and a basic health history questionnaire. Participants were college students familiar with correct chin-up form. Three randomly assigned protocols, performed two days apart, consisted of performing chin-ups to volitional fatigue. Initial measures of grip strength and reach height were taken. Protocol 1 (CUBW) consisted of performing bodyweight chin-ups without any external assistance. Protocol 2 (CUV) consisted of assembling an assistance band vertically with participants feet inside the loop and performing chin-ups until volitional fatigue. Protocol 3 (CUH) consisted of looping the band horizontally across the safety bars of a power rack so that it is at the same height off the ground as the vertical protocol. The participants stood with both feet on top of the band and performed chin-ups until volitional fatigue.

RESULTS: Results of the repeated-measures ANOVA with Bonferroni Post hoc follow-up revealed significant differences. CUV (16.41 ± 10.949) revealed more chin-up output than CUBW (9.73 ± 7.199) ($p < .001$). CUH (26.36 ± 15.945) revealed more chin-up output than CUV ($p < .001$).

CONCLUSION: Assistance from elastic bands during the chin-up exercise is significantly greater when using either band method. Furthermore, the horizontal band method provided the most chin-up output.