

The use of the coefficient of variation in detecting sincerity of effort: a meta-analysis.

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Abstract

The coefficient of variation (CV) is used to determine sincerity of effort of strength measurements. However, there is a controversy in the literature concerning its validity and effectiveness. We used a meta-analytic approach and calculated the effect size between maximal and submaximal efforts for the CV of grip, elbow flexion and knee extension. We summarized findings concerning stability, sensitivity and specificity of the CV. We found large effect sizes ($d > \text{or} = 0.8$) for all comparisons indicating that submaximal efforts were more variable than maximal efforts. We also found large error rates and low stability of the CV. The error rates and stability values of the CV are unacceptable from both a clinical and a medico-legal standpoint. Therefore, the use of the CV for assessing sincerity of effort needs to be questioned.

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