

COMPARISON OF PHYSICAL FITNESS, VISUAL ABILITY AND SWING VELOCITY BETWEEN  
BATTING PERFORMANCE AT PEAK LEVEL AND SLUMP LEVEL BY LONGITUDINAL STUDY

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Abstract

The purpose of this study was to compare to grip strength, 30-meter sprint speed, visual fatigue, dynamic visual acuity (DVA), eye movement (EM) and swing velocity between batting conditions at the moment of excellence and slump. Furthermore, the case study was to investigate in order to understand which factors influence on batting performance in baseball competition. 5 elite batters recruited from baseball team of Taipei Physical Education College. The Batting condition was defined as 0.300 of batting average during 2009 springtime first-class baseball tournament. Results reveal that grip strength, visual fatigue, DVA and EM have slight decreased at batting slump, but it was non statistical significance compare to batting excellence ( $p > .05$ ). In the case study, physical fitness, visual ability and swing velocity had varied at the moment of batting slump. For example, the 30-meter sprint speed and swing velocity decreased for subject-B, as well as the grip strength, visual fatigue, DVA and EM decreased for subject-E. The findings suggested that the physical fitness, visual ability and swing velocity should be analyzed for each subject, when batter tries to recovery batting condition from slump. It would help to understand which factors influence on batting condition and improve batting performance.

Keyword : hitting, batting slump, visual ability