

一過性心理的ストレスが ゴルフパッティングに及ぼす影響

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The Influence of Acute Psychological Stress on Golf Putting

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Abstract

The objective of this study was to investigate the influence of acute psychological stress on kinematics and electromyography (EMG) activity in golf putting. Twenty-two participants performed 200 acquisition trials followed by 10 trials under psychological stress induced by performance-contingent rewards and a small audience. The state anxiety (state-trait anxiety inventory: STAI Y-1) and heart rate (HR) were measured to check the manipulation of psychological stress. Eighteen participants showed significant increase in either state anxiety or HR. Two-dimensional analysis of movement kinematics revealed that, under the psychological stress, amplitudes of arm and club movements during backswing became smaller, and arm movements during follow-through became slower in these 18 participants. However, the EMG activity of the flexor *carpi ulnaris* muscle and the extensor *carpi radialis* muscle of the right forearm showed no significant changes under the psychological stress. Furthermore, five of these 18 participants demonstrated performance decrements based on golf putting score under the psychological stress. Performance decrements of these 5 participants were caused by high inter-trial variability of the club-movement amplitudes during backswing and angular displacement of the right wrist during downswing.

Key words: choking under pressure, kinematics, electromyography