様式５号

論 文 の 欧 文 要 旨

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(Title)

Information processing ability of punching technique (Tsuki-waza) using event-related potential in karatedo players

(Abstract)

The purpose of this study was to evaluate the information processing ability of karatedo players using event-related potential (ERP), with a focus on their decision-making process for kumite punching techniques. In Chapter 2, the information processing ability of karatedo players during a choice response task to a spatially occluded image stimulus was examined to estimate the spatial cues during the decision on using a punching technique. In Chapter 3, we examined ERP during a choice response task for video stimuli to ensure the ecological validity of the experimental situation and to evaluate the information processing ability based on the opponent's actions. Finally, in Chapter 4, ERP during a choice response task to temporally occluded video stimuli were examined to assess information processing ability with prediction. As a result, the following knowledge were obtained from each chapter. In Chapter 2, the reaction time of the upper body occlusion condition was delayed, indicating that the information obtained from the upper body was an important cue when judging the punching technique. In Chapter 3, the reaction time and P3 latency of the expert group were shorter than those of the novice group, and the difference was more pronounced in the upper punch (jodan-tsuki). In Chapter 4, the expert group processed information on upper punch more quickly than the novice group, indicating that factors other than the preparation period contributed to this faster judgment and reaction.