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エリートスイマーのメンタルタフネス尺度開発

(Development of the Mental Toughness Scale for Elite Swimmers)

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### Abstract

The purpose of this research was to develop a swimmer-specific mental toughness inventory. In the pilot survey, semi-structured interviews were conducted with 7 Japanese individual sports Olympic medalists (4 males, 3 females) in order to identify the characteristics of elite swimmers' mental toughness using a qualitative analysis method, the KJ method, considering higher- and lower-order structures. In the main research, a questionnaire regarding mental toughness was conducted on 254 swimmers (151 males, 103 females) who met the finishing time set by the Japan Swimming Federation with the purpose of enhancing swimmers' competitiveness (assumed as elite swimmers in this study). The development of a swimmer-specific mental toughness inventory was attempted using a questionnaire developed by extracting swimmers' mental toughness characteristics revealed in the pilot survey. After excluding defective answers, 194 (117 males, 77 females) samples were included in analysis. Exploratory factor analysis indicated that the inventory consisted of five factors and three items. After scrutiny of what constituted the extracted five factors, they were named the following: "Fortitude," "Commitment to the Sport," "Psychological Conditioning," "Self-control," and "Resilience." Exploratory factor analysis was once again conducted through the maximum-likelihood method and Promax rotation and confirmed internal validity. Conversion validity and divergent validity were examined, both of which adequately fulfilled the Goodness of Fit Index and standard path coefficient. Finally, adequate criterion-related validity was verified using correlation analysis with DIPCA.3. The factors of mental toughness in elite swimmers were similar to those in other sports. Japanese elite swimmers' mental toughness characteristics were identified and a swimmer-specific mental toughness inventory was developed. This scale will be useful for coaches to understand Japanese elite swimmers' mental toughness.