

Prediction of playing ability in Taekwondo from selected anthropometrical physical fitness and physiological characteristics among varsity Taekwondo sparring players in Sri Lanka

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Taekwondo sparring is an exciting part of training that allows practitioners to put their punches and kicks into one-on-one or multiple-person situations. As the sport grows in popularity, understanding the complex nature of player performance becomes critical. Therefore, this study aimed to predict the Taekwondo playing ability of varsity Taekwondo sparring players using their anthropometrics, physical fitness, and physiological parameters. To achieve the purpose, thirty female Taekwondo players, aged between 20 to 25 were selected from the universities of Sri Lanka. All the players had at least three years of playing experience and represented their university teams. In this study, thirteen anthropometric factors (standing height, weight, leg length, foot length, hand length, calf girth, thigh girth, chest girth, waist girth, forearm girth, upper arm girth, thigh skinfold, calf skinfold), nine physical fitness qualities (muscular endurance, muscular strength, cardiovascular endurance, flexibility, power agility, speed, coordination, hand and foot reaction time), and three physiological parameters (resting heart rate, breath hold time, and peak expiratory flow rate) were selected as independent variables. All the variables were examined by a standardized test using scientifically approved equipment. The dependent variable of playing ability was assessed by the three qualified Taekwondo referees and it was determined by four skills: kicking, punching, attacking, and blocking during the match situation. The collected data was analyzed by stepwise multiple regression analysis with SPSS software. The results revealed that cardiovascular endurance, coordination, reaction time, flexibility, leg length, foot length, resting heart rate, breath hold time, and peak expiratory flow were highly correlated with playing ability. From the results it was concluded anthropometrical, physical fitness physiological parameters positively impact the Taekwondo playing ability of varsity taekwondo sparring players in Sri Lanka.

Keywords: *Taekwondo, Anthropometric, Physical fitness, Physiological, Sparring*