A multilateral modelling of Youth Soccer Performance Index (YSPI)

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ABSTRACT
This study aims to identify the most dominant factors that influencing performance of soccer player and to predict group performance for soccer players. A total of 184 of youth soccer players from Malaysia sport school and six soccer academy encompasses as respondence of the study. Exploratory factor analysis (EFA) and Confirmatory factor analysis (CFA) were computed to identify the most dominant factors whereas reducing the initial 26 parameters with recommended >0.5 of factor loading. Meanwhile, prediction of the soccer performance was predicted by regression model. CFA revealed that sit and reach, vertical jump, VO_2max, age, weight, height, sitting height, calf circumference (cc), medial upper arm circumference (muac), maturation, bicep, triceps, subscapular, suprailiac, 5M, 10M, and 20M speed were the most dominant factors. Further index analysis forming Youth Soccer Performance Index (YSPI) resulting by categorizing three groups namely, high, moderate, and low. The regression model for this study was significant set as $p < 0.001$ and R^2 is 0.8222 which explained that the model contributed a total of 82% prediction ability to predict the whole set of the variables. The significant parameters in contributing prediction of YSPI are discussed. As a conclusion, the precision of the prediction models by integrating a multilateral factor reflecting for predicting potential soccer player and hopefully can create a competitive soccer games.

KEYWORDS:
Factor analysis; Forecasting; Multivariant analysis; Regression analysis