

UNIVERSITI TEKNOLOGI MARA

**DETERMINANTS OF FLEXIBILITY, POWER,
SPEED AND ENDURANCE AMONG SENIOR
AND JUNIOR PLAYERS OF FELDA UNITED
FUTSAL TEAM**

NOR HAZWANI BINTI MOHAMAD NASIR

MASTER OF SPORTS SCIENCE

JANUARY 2013

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Dissertation submitted in fulfillment of the
requirements for the degree of

Master of Sports Science

Faculty of Sport Science and Recreation

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AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my independent work and investigation, unless otherwise indicated or acknowledged as referenced work. This dissertation has not been submitted to any other academic institution or non-academic institution for any degree of qualification.

I, hereby acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

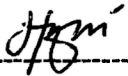
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ABSTRACT

The game of futsal demands the players to maintain optimal level in physical fitness such as flexibility, power, speed, and endurance, as well as to maintain the ideal physical body composition. Therefore the purpose of this study was to determine flexibility, power, speed and endurance between senior and junior players of FELDA United futsal team. Twenty male futsal players aged between 20 - 30 years were selected in this research divided into senior players (n=10; mean \pm SD, age: 25.80 \pm 3.25 years; height: 173.30 \pm 5.67 cm; weight: 70.30 \pm 1.45 kg) and junior players (n=10; mean \pm SD, age: 21.70 \pm 1.16 years; height: 174.50 \pm 6.20 cm; weight: 65.10 \pm 4.25 kg). Flexibility and power were measured using sit and reach and vertical jump techniques, respectively, whereas 40-meter sprint was used to determine speed. VO₂ max was estimated using 20-meter shuttle run for endurance. The results indicate that there were significant differences in all fitness components between senior and junior players of FELDA United futsal team in term of lower back flexibility (t (18) = 7.272, p = .000), leg power (t (18) = 7.487, p = .000), sprint time (t (18) = - 3.030, p = .007) and estimated VO₂ max (t (18) = 9.491, p = .000). In terms of correlation, the anthropometric variables; muscle mass and fat percentage showed significantly correlation effect to the four fitness components. In conclusion, players with higher level of certain fitness components may have an advantage in their skills performance. The impact of fitness measures on playing performance need to be determined by training studies.

Keywords: Flexibility, Power, Speed, Endurance, Futsal