

**UNIVERSITI TEKNOLOGI MARA PAHANG**

**DIGIT RATIO AS A PREDICTOR OF CARDIOVASCULAR  
ENDURANCE AND SPEED PERFORMANCE AMONG  
CHILDREN**

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**DECLARATION OF ORIGINAL WORK**

**BACHELOR OF SPORTS SCIENCE (HONS)**

**FACULTY OF SPORTS SCIENCE AND RECREATION**

**UNIVERSITI TEKNOLOGI MARA (UiTM) PAHANG**


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Hereby, declare that:

This work has not previously been accepted in substance for any degree, locally or overseas, and is not being concurrently, submitted for this degree or any other degree.

This project paper is the result of my independent work and investigation, except otherwise stated. I absolve Universiti Teknologi MARA (UiTM) Pahang and Faculty of Sports Science and Recreation from any blame as result of my work.

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## ABSTRACT

### DIGIT RATIO AS A PREDICTOR OF CARDIOVASCULAR ENDURANCE AND SPEED PERFORMANCE AMONG CHILDREN

The ratio between 2D (index finger) and 4D (ring finger) has produced much enthusiasm among specialist. Previous research shows that men tend to have low digit ratio than women. It showed that 2D:4D, a putative correlate of prenatal testosterone, has been found to relate performance in sports and athletic which is low 2D:4D that have high prenatal testosterone correlate with high performance. Nowadays, the student of children's achievement in sports has now become important factors of identifying sporting athletic ability at early ages of child development. The objective of this study is to investigate the relationship between low digit ratio and high digit ratio towards cardiovascular endurance and speed among children. This study was used purposive sampling technique by examining the digit ratio of male and female children aged  $11.13 \pm 0.82$  years ( $n=40$ ) by putting them through physical fitness measures to examine the relationship of the digit ratio with performance in the tests. 20 meter shuttle run test and 50 meter sprint test were conducted. This study finds the strong relationship between low digit ratio towards cardiovascular endurance, which is  $2.95 \pm 0.52$ ,  $p = .001$  and speed performance which is,  $9.33 \pm 0.97$ ,  $p = .001$  rather than high digit ratio. The results present more opportunities to be explored in talent identification, especially in the youth, establishing the value of using the 2D:4D ratio as part of the process of identifying sporting ability.

*Keywords—digit ratio, testosterone, children, sporting ability*

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