

# Anthropometric Measures and Static Muscular Strengths for Youths Males and Females

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## Abstract

Teenagers are in a growth spurt both in body dimensions and in physical strength. Isometric strength is commonly adopted to indicate the physical capability of humans to perform manual tasks. This study presents the data collected from 120 adolescences concerning their anthropometric measures and four isometric strengths. Both youth males and females, aged 13 to 15 years old, were recruited for measurements. The results of the study indicated that all the four strength were significantly ( $p < 0.05$ ) affected by age and gender. Among the four strengths, isometric back strength was significantly ( $p < 0.05$ ) the highest, next with the isometric leg strength, and next the isometric shoulder strength, and finally the isometric arm strength. The 15 years old subjects had significantly the highest isometric strengths than the other two age groups. It was found that the isometric strengths for female subjects were approximately two third of those of the male subjects. The Pearson's correlation coefficients between the variables were calculated. Stature and body weight were found to be the two most significant parameters related to the isometric strengths of the subjects. These strength data are valuable for designs not only in manual handling tasks but also in the facilities involving physical activities for teenagers.

Keyword : Static muscular strength, anthropometric, teenaged, physical capability