

EVALUATION OF POSSIBLE ANTHROPOMETRIC ADVANTAGE IN SIT-UP TEST

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ABSTRACT

The U.S. Navy currently employs sit-ups as part of its semi-annual physical fitness in order to assess the abdominal muscular endurance of service-members. However, there is speculation that sit-up performance may be associated with anthropometric proportions thereby affording certain service-members with a biomechanical advantage. To test this theory, anthropometric measurements were taken at various sites (i.e., humerus, torso, femur, and tibia) across a convenience sample of 69 participants (37 male/32 female), to include student, active duty, and retired military personnel from the United States Naval Academy. Humerus length ($r = 0.297$), tibia length ($r = 0.385$) and sex ($r = 0.314$) were all found to be moderately correlated with sit-up performance. These findings, coupled with well-documented concerns of the sit-ups in terms of safety and relevance in the literature, make a compelling argument for the identification and implementation of other potential field tests to assess abdominal muscular endurance.

Keywords: Military physical fitness test, Sit up test, Anthropometric measurements.

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