

## Somatotyping of Division I Athletes

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### ABSTRACT

Somatotyping has previously examined athletes' genetic morphology. Categorization of somatotyping can be utilized in athletes for specialized, adaptive sports performance. **PURPOSE:** The purpose of this study was to report somatotyping differences (ectomorph, mesomorph, and endomorph) in selected Division I athletes. **METHOD:** 39 male football athletes and seven female softball Division I athletes were recruited for this investigation. Height (m), weight (kg), waist-to-hip ratio (cm), and a 4-site skinfold measurement was collected. Skinfold locations were recorded from the triceps (mm), subscapular (mm), supraspinal (mm), and the medial calf (mm). Bipicondylar breadth measures of the humerus (cm), and the femur (cm) were recorded at a respective 90°. Additionally, the girth of the subject's dominant upper arm (cm) and dominant calf (cm) were recorded. All measurement locations were taken from the Heath-Carter Anthropometric protocol, respectfully. The Heath Carter Somatotype Worksheet consists of a rating scale that is based on a 3-component categorization. All measures are considered when calculating a participant's score. Scores between .5 and 2.5 are low, 3 to 5 are moderate, 5.5 to 7 are high and anything over a 7.5 is considered very high. The first component calculated scores of endomorphy, the second calculated mesomorphy scores, and the last component calculated ectomorphy scores. Using these measurements, equations are used to determine a participant's score to a specific somatotype. The athletes' numbers were then processed and plotted on a 2-D graph plotting the somatotype ( $X = \text{ectomorphy} - \text{endomorph}$ ,  $Y = 2 \times \text{mesomorphy} - (\text{endomorph} + \text{ectomorphy})$ ). **RESULTS:** There was a clear indication that somatotyping had variety based on sports and position specialization in football athletes. Football athletes consisted of 6 endomorphs, 30 mesomorphs, and 3 ectomorphs, while softball athletes consisted of 7 meso-endomorphs. **CONCLUSION:** Due to the anthropometric position differences in male football athletes there was a considerable amount of variety and lack of specificity, while the female softball athletes consisted of a lesser variety in anthropometric measures.