

Body Mass Index in Men's Collegiate Athletics Compared Between University and Conference Teams



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Introduction

Body mass index (BMI) is a numeric measure that many health professionals use as an indicator of obesity. Historically, using BMI as a physiological marker for body type casting for athletes has been questioned with respect to its validity since the formula does not delineate between adipose and lean body mass when labeling one's body weight. To our knowledge, no studies have previously assessed the BMI of Men's student athletes participating in the National Collegiate Athletic Association's Division I Big East Conference (BEC).

Purpose

The purpose of this study was to assess the body mass index (BMI) of specific for the football, soccer, baseball and basketball men's athletics for the University of South Florida (USF) and the 15 member institutions participating in the Big East Conference during the 2006 – 2007 academic year.

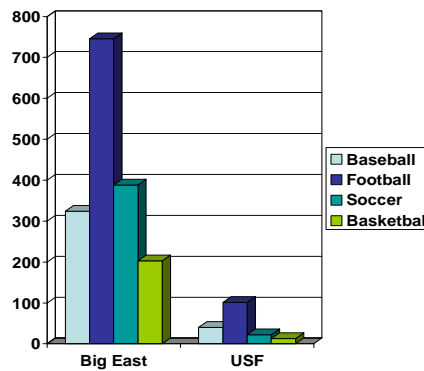
Subjects

A total of 1661 student athletes participating on the football, soccer, baseball, and basketball men's athletic teams in the Big East Conference during the 2006 – 2007 academic year were included. (Figure 1)

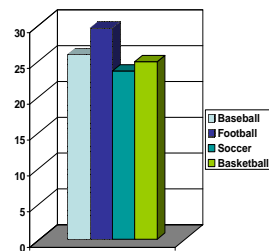
Methods

Information was collected via commercially available websites listing the respective height and weight for each subject according to their team roster. From this information, BMI was calculated using a standard internationally acceptable formula for each subject and averages were identified by specific sport and position for both USF and the BEC.

Figure 1. Total number of subjects by sport



Weight in pounds		(Ht in inches) (Ht in inches)	
Under 20	= Underweight		
20 - 24.99	= Normal		
25 - 29.99	= Overweight		
30 - 34.99	= Obese 1		
35 - 39.99	= Obese 2		
Over 40	= Morbid		



Results

The average BMI's calculated for BEC sports were 29.5 (football, +/- 4.17), 23.5 (soccer, +/- 1.46), 25.4 (baseball, +/- 2.21), and 24.8 (basketball, +/- 2.05). Average BMI's calculated for USF sports were 29.6 (football, +/- 4.62), 22.6 (soccer, +/- 1.07), 25.8 (baseball, +/- 2.44), and 23.9 (basketball, +/- 2.03). (Figure 2) With the exception of USF place-kickers, the calculated BMI data categorized all football positions in the BEC and USF as overweight (BMI of 25.0-29.9). Defensive and offensive linemen were additionally categorized as obese (BMI > 30.0). Calculated BMI's of all soccer positions in the BEC and USF were categorized as normal (BMI of 18.5-24.9), while all baseball positions in the BEC and USF were categorized as overweight. Centers and forwards in BEC basketball were categorized as overweight while only the center (n=1) at USF was considered overweight. (Figure 3)

	Underweight	Normal	Overweight	Obese 1	Obese 2	Morbid
Baseball	None	None	All Positions	None	None	None
Football	None	Kickers	QB RB WR DB	OL DL	None	None
Soccer	None	All Positions	None	None	None	None
Basketball	None	Guard	Center Forward	None	None	None

Figure 3. BMI category by sport and position