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Differences in Subclinical Eating and Somatoform Disorder Symptomology Among Hispanic, African American, and Caucasian Collegiate Male Athletes

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Abstract

The following research examines the prevalence of subclinical eating and somatoform disorder symptomology among African American, Hispanic, and Caucasian males competing in NCAA Division 1 and Varsity athletics. A survey was distributed to 119 male participants in March and April, 2013. Data suggests that there may be differences in the occurrence of subclinical symptomology between ethnic groups. In general, the data indicates inadequate nutrition education among athletes, as well as the manifestation of restrictive food habits and time consuming exercise routines to decrease adiposity and increase muscularity.

Introduction

Concern for college aged athletic males exists among physical and mental health professionals who postulate that an increased desire for muscularity can lead to manifestation of weight control behaviors which have deleterious effects on physical and mental health (Cafri et al., 2005; Cafri et al., 2008). Traditionally, extreme concerns with appearance and body image have been considered a feminine pathology (Petrie et al., 2008). Lower incidence of eating and somatoform disorders among males is associated with the decreased likelihood of males to participate in health promoting activities (Levant et al., 2011) and has obfuscated the assessment of symptomology in male populations (Bottamini, 2006). College students, who have greater sensitivity to gender roles, are at a greater risk of implementing unhealthy body change strategies (Grossboard, 2010) to develop more muscular shapes perceived as masculine (Olivardia and Pope, 2004). Research has evaluated the incidence of somatoform disorders and the comorbidity for developing eating disordered behavior, indicated by males with body image disturbances who demonstrate an obsession with food, binge purge behavior, and the use of sports nutrition supplements (Pope, 2000). The majority of male collegiate athletes, regardless of ethnicity, perceive their actual body size as smaller than their ideal body size (Galli and Reel, 2009; Galli et al., 2011), indicating the prevalence of a desire to increase muscle mass. In addition, the majority of collegiate athletes use some nutrition supplement without perceived efficacy (Burns et al., 2004).

Literature Review

There is a scarcity of research on the body modification behaviors of undergraduate Hispanic and African American males despite the rapid growth of these ethnic minorities in college populations (National Center for Education Statistics, 2007). Research on competitive collegiate athletes- athletes who

compete in NCAA Division 1 and Varsity teams- proposes that subclinical eating and somatoform disorder symptomology is disproportionately influenced by body dissatisfaction and is more frequently derived from concerns with athletic performance (Raudenbush and Meyer, 2003; Petrie, 2008; Steinfeldt, 2011). An investigation is necessary to examine for an increased prevalence of subclinical symptomology among competitive African American and Hispanic male athletes.

Investigations on the young and college aged African American and Hispanic populations have reported a large incidence of eating disordered behavior and body modification practices (Blow et al., 2010; Ricciardelli et al., 2007). College aged African American and Hispanic males exhibit decreased levels of body satisfaction from media exposure (Lorenzen et al., 2004; Nieri, 2005), and young African American and Hispanic males have lower body satisfaction than young Caucasian males (Neumark-Sztainer et al., 2002). Compared to young Caucasian males, young African American and Hispanic males report higher frequencies of binge-purge behavior, such as binge eating combined with self-induced vomiting, laxatives, or diuretics (Neumark-Sztainer and Hannan, 2000; Story et al., 1995). Additional research supports that the perception of a small body size among young African American and Hispanic males leads to low body satisfaction (Nieri et al., 2005). Among young African American and Hispanic males with low body satisfaction, there is an increased propensity towards extreme weight loss and muscle gain behaviors (Croll et al., 2002; Neumark-Sztainer et al., 1999; Serdula et al., 1993).

While more research must be done to clarify the relationship between masculinity and desired muscularity for athletes, there is significant evidence that male athletes who desire a more masculine physique are considered at risk for implementing rigorous exercise schedules, restrictive dietary patterns, and supplement use (Murray, 2012; Pope, 2000). In this study it is hypothesized that African American and Hispanic male collegiate athletes will exhibit a higher prevalence of subclinical eating and somatoform disorder symptomology.

Methods

Participants:

A survey was distributed to 119 male participants who competed in an NCAA Division 1 athletic team or varsity club at California State University Sacramento. Responses included athletes which competed in rowing (n=21), baseball (n=31), football (n=30), tennis (n=8), basketball (n=12) and soccer (n=17).

Instruments:

A survey was generated based on instruments used in seminal studies with high validity. Although the questions are conceptually similar, the wording has been modified and thus the current survey does not merit the validity of the original studies. The survey was distributed to participants based on the availability of coaches. The author personally administered a paper format of the survey to teams with pencils during a ten to fifteen minute time period of individual team meetings.

The objective of this research is determining the relationship of ethnicity and body/muscle satisfaction, and eating disorder pathology among competitive athletic males. Respondents recorded their ethnicity in a blank space. Responses such as “Black” or “African American” were considered “African American” (n=22). Responses such as “Latino”, “Mexican”, or “Hispanic” were considered “Hispanic” (n=18). Responses such as “White”, “European” or “Caucasian” were considered “Caucasian” (n=71). It should be noted that ten survey responses were not included in the data due to a limited sample size, including responses with mixed ethnicities (n=3), and (n=5) “Pacific Island”, “Asian”, “Philipino” and “Samoan” ethnicities.

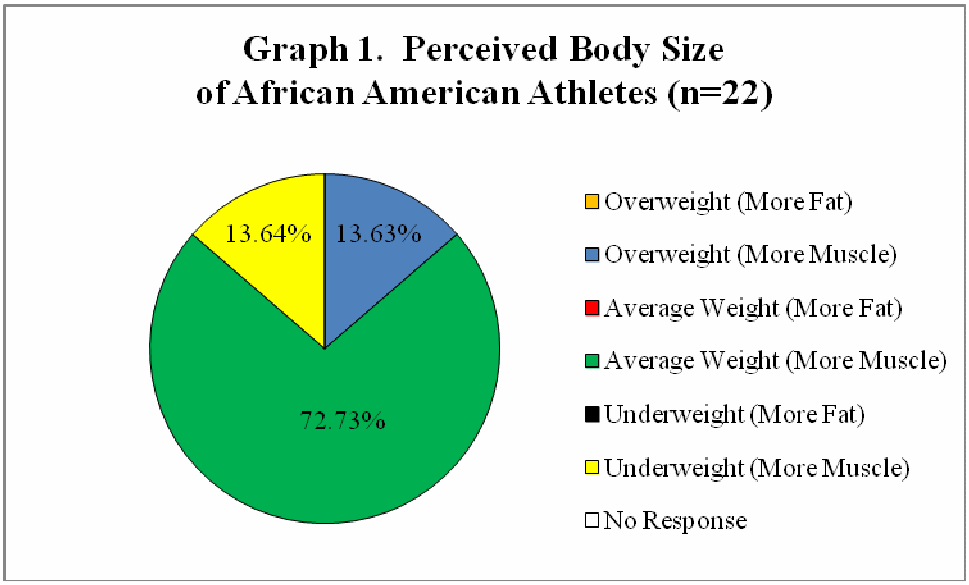
Eating and Somatoform Disorder Symptomology:

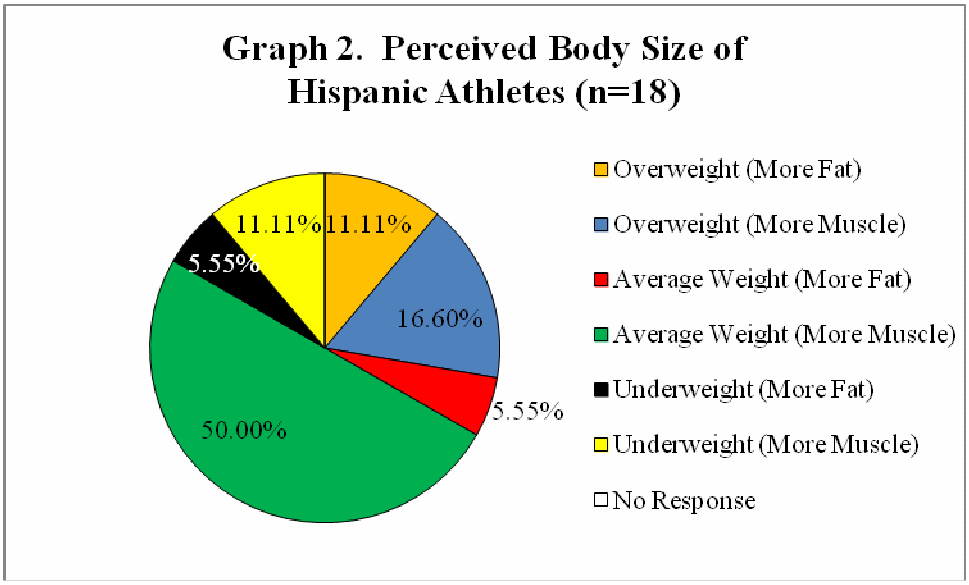
To assess subclinical muscle dysmorphia symptomology, the survey extracted responses which described the attitudes of athletes toward exercise and food. Some of these questions used a Likert scale to implicitly address the propensity of athletes to adopt stringent eating patterns: "I avoid eating foods which are low in protein", "Eating foods which contain fat contribute to an undesirable body". Another Likert scale question was used to assess whether athletes believed that protein supplements were a dynamic source of protein. To evaluate the symptomology of muscle dysmorphia multiple questions were asked which required respondents to reveal their perception of body size, adiposity and muscular composition. Other questions assessed whether athletes felt that their muscularity was significant to their team mates or coaches, and the interference of increasing muscularity with social and academic activities.

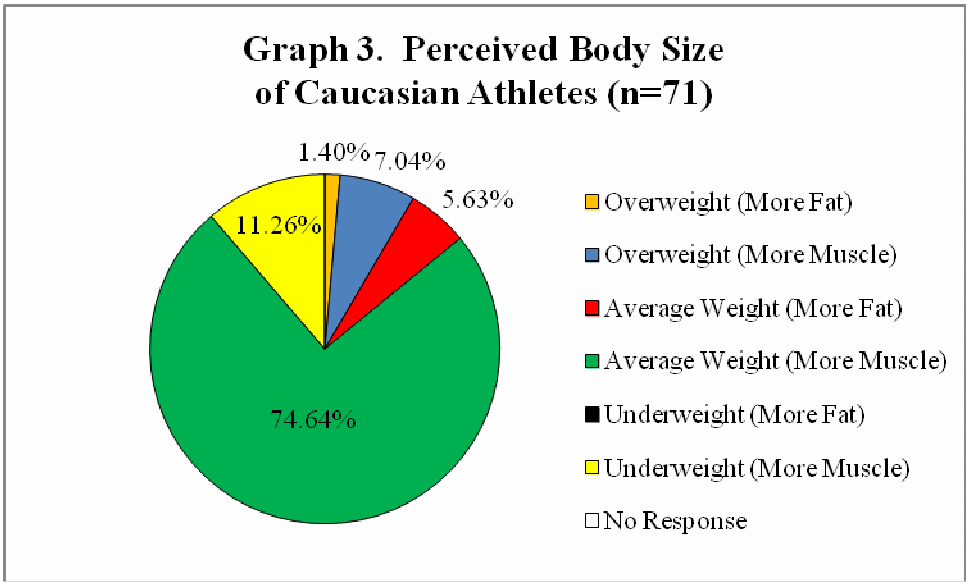
Results

Results from survey questions are displayed in the following nine graphs and data table. Likert Scale responses of "Strongly Agree" and "Agree" are recorded as "Agreed" and responses of "Strongly Disagree" and "Disagree" are recorded as "Disagreed". Neutral responses are not recorded. Due to limitations in sample sizes, an equal distribution was not achieved for all ethnicities and therefore, statistical significance was not calculated.

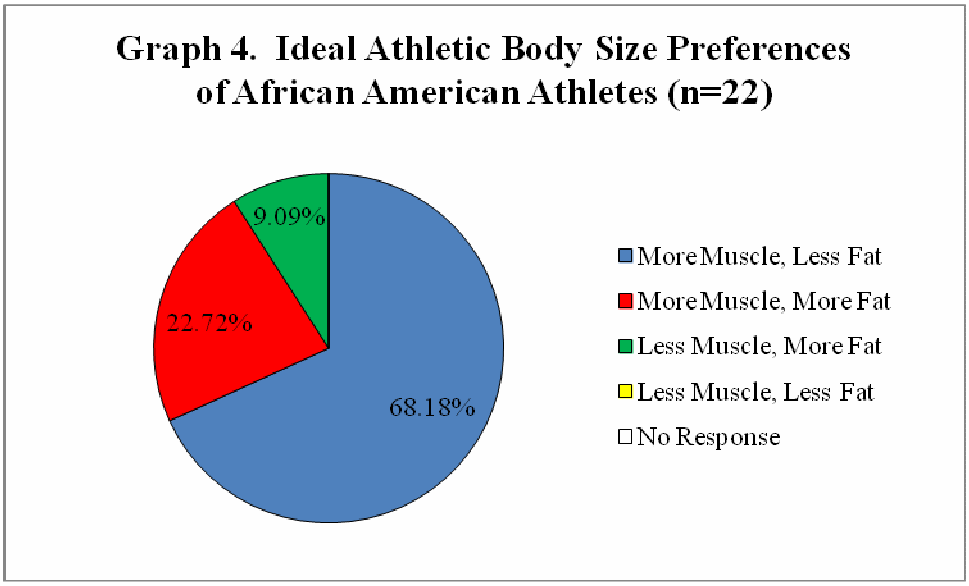
Graphs 1-3. Responses to Respondent's Self Perception of Body Size.

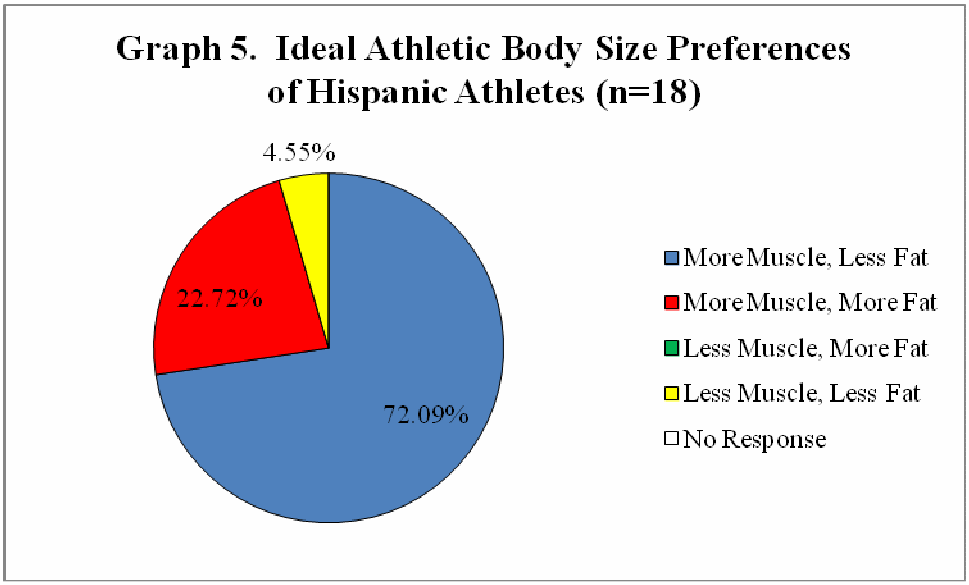


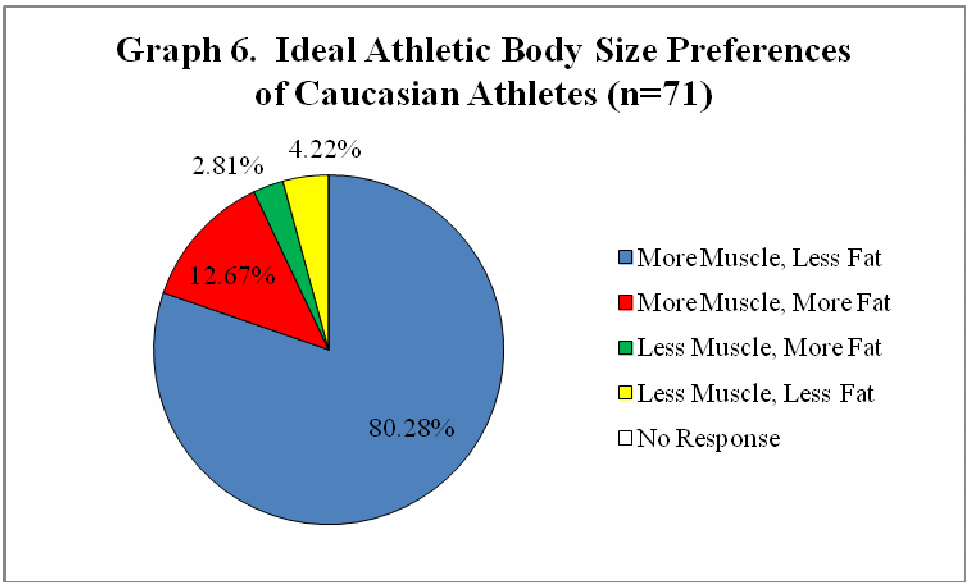




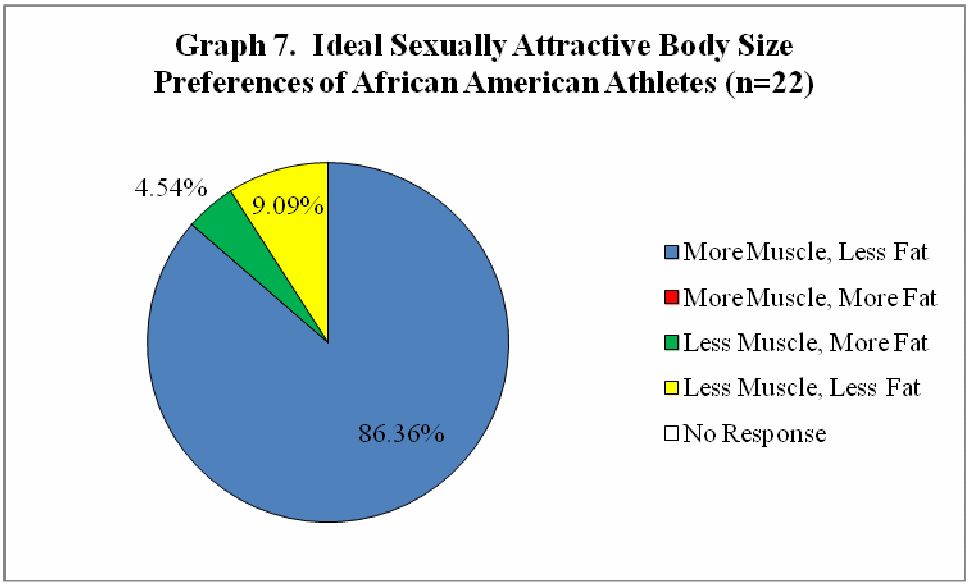
Graphs 4-6. Preferences of Ideal Body Size for Athlete in Respondent's Sport Compared to Respondent's Body Type.

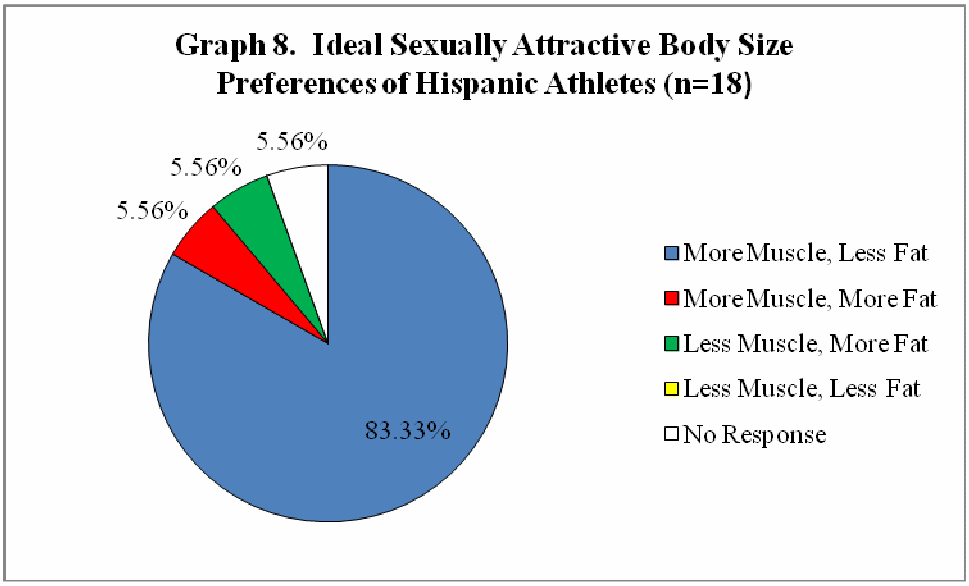



Graph 5. Ideal Athletic Body Size Preferences of Hispanic Athletes (n=18)
4.55%
22.72%
72.09%
More Muscle, Less Fat
More Muscle, More Fat
Less Muscle, More Fat
Less Muscle, Less Fat
No Response


Graph 6. Ideal Athletic Body Size Preferences of Caucasian Athletes (n=71)
2.81%
4.22%
12.67%
80.28%
More Muscle, Less Fat
More Muscle, More Fat
Less Muscle, More Fat
Less Muscle, Less Fat
No Response

Graphs 7-9. Preferences of Ideal Sexually Attractive Body Size Compared to Respondent's Body Type





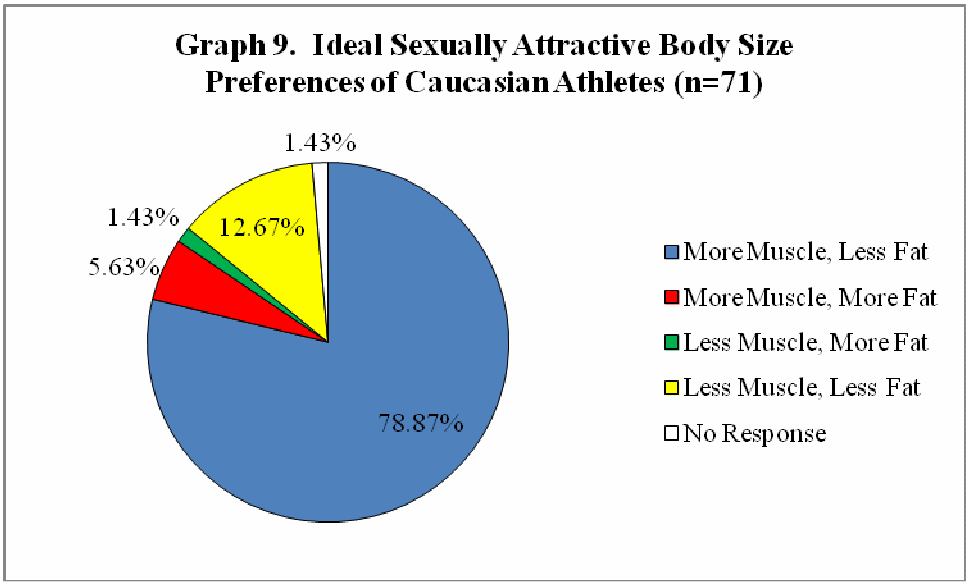


Table 1. Responses to Survey Questions from Ethnic Groups.

Question:	African American (n=22)	Hispanic (n=18)	Caucasian (n=71)
Protein supplements are a great way to increase muscle.	Agree: 36.36% Disagree:45.45%	Agree: 44.44% Disagree: 27.77%	Agree: 49.29% Disagree:33.80%
I avoid foods low in protein.	Agree: 40.90% Disagree: 40.90%	Agree: 50.00% Disagree: 22.22%	Agree: 21.12% Disagree: 56.33%
Foods with fat contribute to an undesirable body size.	Agree: 36.36% Disagree: 45.45%	Agree: 50.00% Disagree: 22.22%	Agree: 23.94% Disagree: 49.29%
I have avoided social and academic responsibilities to work out.	Agree: 36.36% Disagree:54.54%	Agree: 27.77% Disagree: 27.77%	Agree: 39.43% Disagree: 56.33%
Coaches and teammates encourage me to gain muscle mass.	Agree: 59.09% Disagree:31.81%	Agree: 77.77% Disagree: 22.22%	Agree: 53.52% Disagree: 26.71%
Coaches and teammates care about how my body looks.	Agree: 63.63% Disagree: 31.81%	Agree:55.55% Disagree: 33.33%	Agree: 43.66% Disagree: 29.57%

Discussion

Responses to the survey indicated a prevalence of poor body image among male athletes of all ethnicities. Although the majority of collegiate athletes considered themselves to be average weight, there were more who felt that in order to be athletically competitive or sexually attractive they should increase their muscle mass and decrease adiposity. This trend is observed in all three ethnic groups, and may disprove previous claims that the impetus for increasing muscularity and decreasing adiposity is solely performance related. Masculinity and athleticism are not mutually exclusive in the United States, as masculine identity is frequently illustrated in terms of strength, aggression, and success (Pope, 2000). The data suggest that more research must be done to evaluate the intent of collegiate athletes in increasing muscularity and/or decreasing adiposity to address the degree of influence of performance related objectives. Furthermore, the data propose that pressure from coaches and team mates may provoke the majority of collegiate athletes, regardless of ethnicity, to prioritize increasing muscle mass over social and academic endeavors.

Although the data suggests peer pressure contributes to the concern for body size, and subsequent modification mechanisms, the data illustrates inadequate knowledge of nutrition among the majority of participating athletes. Responses from all athletes indicate misconceptions regarding the role and acquisition of macronutrients like proteins and fats. Although a higher percentage of Caucasian athletes reported that protein shakes and individual amino acids were excellent sources of protein for increasing muscle mass, both Hispanic and African American athletes reported that these supplements were beneficial. Supplement use among athletes was anticipated (Burns et al., 2004) but the data may indicate additional manifestations of food restrictive behavior. A higher percentage of African American and Hispanic athletes reported avoiding foods which were low in protein. Additionally, respondents indicated that foods

containing fats contribute to an undesirable body. A larger percentage of Hispanic athletes agreed with this statement, indicating a stronger interest in decreasing adiposity than other ethnic groups. Less Caucasian athletes agreed with this statement than Hispanic and African American athletes. These results indicate a prevalence of subclinical eating disorder symptomology in African American and Hispanic male athletes. It is pertinent to understand that since the data combines agreed and strongly agreed statements into the category of "Agree", there are varying degrees of subclinical symptomology and athletes who agreed that protein supplements were efficacious may not necessarily agree that foods containing fat contribute to an undesirable body.

Additional exploration of the athletic male population is necessary to determine the prevalence of eating and somatoform disorder symptomology, and the origin of these behaviors. Increasing muscularity may be of more concern to an athlete who receives a scholarship, or is involved in more aggressive contact sports. The rowing team is not considered an NCAA Division 1 team, which may skew the data based on the athletic pressures associated with NCAA Division 1 athletics. The role of nutrition education is essential, and the survey did not ascertain the primary sources of nutrition information accessed by the athletes; athletes prescribed a creatine supplement by a dietitian or physician are better informed than an athlete who has been recommended a supplement by their personal trainer or another team member. Although it is unclear whether more symptomology was present among any particular ethnic group based on survey responses, it is pertinent to improve the quality and retention of nutrition education in collegiate male athletes to improve relationships with food and bodies.

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