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## The Relationship Between Self-Presentation, Body Image Satisfaction, and Body Change Strategies in Weight Class and Non-Weight Class Male Athletes

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THE FLORIDA STATE UNIVERSITY

COLLEGE OF EDUCATION

THE RELATIONSHIP BETWEEN SELF-PRESENTATION, BODY IMAGE  
SATISFACTION, AND BODY CHANGE STRATEGIES IN WEIGHT CLASS  
AND NON-WEIGHT CLASS MALE ATHLETES

By

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To My Parents: Carlos Cruz and Rose Cruz, Thank you for all your love and support.

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## ABSTRACT

Athletes are constantly being judged by themselves and others. Therefore, it is of interest to study how athletes view their public identity, and what behaviors athletes use to manage these public identities (Prapavessis, Grove, & Eklund, 2004; Wilson & Eklund, 1998). The hypotheses for this study were: (1) weight class athletes would engage in more body change strategies than non-weight class athletes after controlling for self-presentation and body image discrepancies, (2) athletes who have higher levels of self-presentation motivation and body image discrepancies will engage in more body change strategies, and (3) weight class athletes will have higher self-presentation and body image discrepancies than non-weight class athletes, when controlling for body change strategies. Male athletes were recruited for the study from weight class and non-weight class sports ( $N= 120$ ,  $age M= 21.34$  yrs,  $SD= 3.077$ ). The results indicated for hypothesis one there is evidence to support that weight class athletes engaged in more body change strategies than non-weight class athletes. While testing the second hypothesis the results showed that self-presentation and the body image discrepancy scores had a significant relationship on the outcome of the amount body change strategies. The overall results for hypothesis three did not show that weight class athletes differed from non-weight class athletes on self-presentation or body image discrepancies. It is important to continue studying how male athletes perceive their public identities and images, and how the research and applied settings can work together to improve on the overall sporting environment

## CHAPTER ONE

### REVIEW OF LITERATURE

Athletes are constantly being judged by themselves and others. Therefore, it is of interest to study how athletes view their public identity, and what behaviors athletes use to manage these public identities (Prapavessis, Grove, & Eklund, 2004; Wilson & Eklund, 1998). More specifically, the purpose of this study was to examine how male athletes perceive their physical bodies, and what behaviors are utilized to change their body. Researchers have noted that males generally strive to gain weight albeit not from adiposity but instead from increased muscle size (Cafri, Ricciardelli, McCabe, Smolak, & Yesalis, 2005; Edwards & Launder, 2000; Kyrejto, Mosewich, Kowalski, Mack, & Crocker, 2008; Olivardia, Pope, Borowiecki, & Cohan, 2004; Pope, Gruber, Mangweth, Bureau, deCol, Jouvent, & Hudson, 2000).

In order to describe methods used by males to change body size, it is vital to understand how an athlete perceives his body. Body image is defined as how a person internally perceives his outer physical appearance (Cahill & Mussap, 2007; Hausenblas & Downs, 2001; Kyrejto et al., 2008; Ricciardelli & McCabe, 2002). Another facet to this study was focused upon examination of self-presentational concerns. Self-presentation is a term used to refer to the processes through which people consciously or unconsciously try to control how others perceive them (Gammage, Martin Ginis, & Hall, 2004; James & Collins, 1997; Leary & Kowalski, 1990; Martin, Kliber, Kulinna, & Fahlman, 2006; Wilson & Eklund, 1998). Motivation for changing body size is complex. Self-presentation and body image satisfaction motives may play a role in body change strategies. Though performance issues might play a role with why athletes might engage in body change strategies, this study was conducted to attempt to understand the extent to which male athletes' internal or external perceptions are related to engaging in body change strategies. The purpose of the current study was to examine male athletes who participate in weight class and non-weight class sports and the relationships between their body change strategies, self-presentation motivation, and body image satisfaction.

#### *Self-Presentation*

Self-presentation, also known as impression management, is characterized as a collection of processes in which a person tries to control how he/she is evaluated by others (Gammage et

al., 2004; James & Collins, 1997; Leary & Kowalski, 1990; Martin et al., 2006; Martin Ginis & Leary, 2004; Prapavessis et al., 2004; Williams, Hudson, & Lawson., 1999; Wilson & Eklund, 1998). The main goals of self-presentational behaviors are to acquire social and material outcomes, self-esteem maintenance, and the development of an identity (James & Collins, 1997; Leary & Kowalski, 1990). Leary and Kowalski (1990) used these three goals to aid in the development of their two-component model of impression management. The first part of the model is known as impression motivation, which is the process in which individuals become motivated to manage their public identities. The second part of the model is known as impression construction, which is how an individual attempts to create his desired public identity.

James and Collins (1997) explored the relationship between self-presentation and competitive anxiety in athletes. The goal of their qualitative study was to locate the source of stress for several different athletes, and to see if the framework underlining stress comes from self-presentation. The authors commented that competition can elevate anxiety among athletes. The reasoning behind this is that athletes' behaviors on the court/field are public, and a public image is more likely to be evaluated by themselves and others causing an increase in athletes' self-presentational concern. From the athletes' comments, James and Collins (1997) documented that 59.3% of their anxiety came directly from self-presentation concerns, but about 66% of the overall comments about anxiety had some underlying self-presentational influence. The results from this qualitative study indicate that an impression play a role in athletes' affective experience, but articulates less about impression construction among athletes.

Impression construction involves the behaviors that people utilize to alter others impressions of them (Leary & Kowalski, 1990). These behaviors include both acts of commission and acts of omission. Acts of commission are behaviors that an individual *does*, while acts of omission are behaviors that an individual *does not* do. Acts of omission/commission can change based on the person's self-presentational goal. If an athlete would like others to see him/her as physically fit, he/she might conspicuously engage in aerobic or a weightlifting training program (commission), An athlete also might avoid situations that could potentially expose him as unfit, such as smoking a cigarette or using alcohol (omission) (Leary, Tchividjian, & Kraxberger, 1994; Martin Ginis & Leary, 2004). Martin Ginis and Leary (2004) hypothesized that individuals having high levels of impression motivation would be more likely to sacrifice their health in order to protect or create a desired image. Leary et al. (1994)

reviewed a variety of health issues that may have underlying self-presentational motives including those relevant to body change strategies among athletes (i.e., weight gain/loss, nutrition, steroid use). They noted that having an athletic body type might allow a person to be stereotyped by others as having high social status, being self-disciplined and physically healthy. Knowledge of these stereotypes can factor into the utilization of self-presentational behaviors (Sadalla, Linder, & Jenkins, 1988).

The distinction between impression motivation and construction is not well-respected in the extant literature (Martin Ginis & Leary, 2004). It is important to make a distinction between the two components of the impression management model. Understanding why and how an athlete might try to develop a certain image can aid coaches and other professionals in making a healthy environment for all athletes. Unfortunately extant self-presentation questionnaires do not tend to make a clear distinction between the two components, thus hindering attempts to respect this conceptual distinction. Wilson and Eklund (1998) developed the Self-presentation in Sport Questionnaire (SPSQ). The original SPSQ was created for their study of self-presentation concerns as the source of competitive anxiety. After factor analyzing the original 68 items, 33 items emerged into four subscales; (a) performance/composure inadequacy, (b) appearing fatigued/lacking energy, (c) appearing athletically untalented, and (d) physical appearance (Wilson & Eklund, 1998). McGowan, Prapavessis, and Wesch (2008) subsequently evaluated the psychometric properties of the SPSQ. Their factor analysis of the inventory indicated that 21 items could be grouped into four subscales. The subscales are the same as the original SPSQ except for the “performance/composure inadequacy” subscale which was renamed as the “mental composure inadequacies” subscale. It was found that the items in this subscale better represent mental composure and not just performance composure (McGowan et al., 2008). From Leary and Kowalski’s (1990) definition of impression motivation, it seems that the subscales on the SPSQ measure only impression motivation. It is important for the impression management model to evaluate not only impression motivation, but to also investigate impression construction.

### *Body Image Disturbance*

Body image has been conceptualized and operationalized in many different ways in the extant research (Hausenblas & Downs, 2001). Body image can be comprised of how a person evaluates his/her body size or appearance, anxiety about his/her physical appearance, or behaviors related to appearance (Cahill & Mussap, 2007; Edwards & Launder, 2000; Hausenblas

& Downs, 2001; Kyrejto et al., 2008; Martin et al., 2006; Raudenbush & Meyer, 2003; Ricciardelli & McCabe, 2002). More broadly, body image can encompass cognitions, affect, and behaviors pertaining to the body's appearance, competence, and function (Bane & McAuley, 1998). Bane and McAuley (1998) divided body image into four components; (a) perceptual, (b) cognitive, (c) affective, and (d) behavioral. The perceptual component is related to a person's accuracy when evaluating his/her body size. The cognitive component takes into account the thoughts a person has regarding his/her body and appearance. The affective component corresponds to feelings such as anxiety about one's body or appearance. The behavioral component looks at how a person tries to manage his/her body or appearance using strategies such as eating or exercise (Bane & McAuley, 1998).

The majority of research on body image has focused on females because: (a) research has shown that eating disorders are diagnosed at a higher rate among females than males, and (b) historically females have been judged more harshly on their appearance than males (Bissell, 2004; Cahill & Mussap, 2007; Hausenblas & Downs, 2001; Krane et al., 2004). Researchers have increasingly undertaken the study of how males view their bodies (Bartlett et al., 2008; Cafri, Strauss, & Thompson, 2002; Cafri et al., 2005; Drewnowski, Kurth, & Krahn, 1995; Hatoum & Belle, 2004; Kyrejto et al., 2008; Leit, Gray, & Pope, 2002; Leit, Pope, & Gray, 2001; MacKinnon, Goldberg, Cheong, Elliot, Clarke, & Moe, 2003; Olivardia et al., 2004; Peixoto Labre, 2002; Pope et al., 2000; Pope, Olivardia, Gruber, & Borowiecki, 1999; Raudenbush & Meyer, 2003). Research findings have demonstrated that body image disturbance is not solely a female issue, and that research on males is also warranted.

*Gender differences.* Females and males differ on their perceptions of what is a "perfect" body. Findings indicate that females generally strive for the "thin" ideal, whereas males usually seek a more muscular ideal (Cahill & Mussap, 2007; Krane, Choi, Baird, Aimar, & Kauer, 2004; Kyrejto et al., 2008; Ricciardelli & McCabe, 2002). Krane et al. (2004) conducted a focus group investigation where female athletes were asked about their conceptualizations of the ideal female body. The consensus opinion of these female athletes was that the socially ideal body was thin without a great deal of muscle, albeit with "just enough" definition. Kyrejto et al. (2008) looked at muscle tone instead of solely at muscle mass in examining gender differences on the socially ideal body. Males were found to score higher than females on the Drive for Muscularity Attitudes Questionnaire. When the questionnaire was modified to ask questions pertaining to

muscle tone, however, gender differences disappeared. It was concluded that males and females respond similarly relative to muscle tone but exhibit some differences when it comes to muscle mass and the strategies employed to obtain the ideal amount (Kyrejto et al., 2008).

Males and females may be similar when it comes to their attitudes about muscle tone, but their emotional responses associated with their evaluations of their physicality can be different. Cahill and Mussap (2007) used the dual-pathway model to explain why some people experience negative cognitions and affect towards their body. The dual-pathway model couples sociocultural pressures on appearance with the person's internalization of the physical ideal. The coupling of pathways can lead to feelings of dissatisfaction with the person's outer appearance, and can contribute to adopting body change strategies and a negative affect when the ideal image is not achieved. Both males and females showed a decrease in body satisfaction after looking at advertisements that used male or female models. Females also showed an increase in state anxiety, depression, and anger. Scores on the state anxiety, depression, and anger measures were not significant for males. Males did show an increase as compared to females on adopting strategies to gain muscle mass, though this is not an emotional response it is an important finding in the study (Cahill & Mussap, 2007). Both of these studies have shown that males and females experience similar ideals when it comes to body image. It was also shown that males and females differ on how they interpret body image and the strategies they employ to obtain their ideal image.

*Actual versus ideal body image.* The media in Western society promotes the idealized man to be overtly muscular, highlighting a well-developed chest, large shoulders and biceps, and a tapered waist (Barlett, Vowels, & Saucier, 2008; Hatoum & Belle, 2004; Leit et al., 2002). Television, magazine, and movies bombard men daily with ideas about what the ideal male body should look like. A meta-analysis of experimental studies dealing with media and male body image revealed that the media does negatively influence the way males perceive their bodies. Males experienced negative body satisfaction, body esteem, and self-esteem after viewing images from the mass media (i.e. magazine ads, television, action figures), and these factors were also related to excessive exercising (Barlett et al., 2008). Social comparison theorists claim that people tend to have their attention drawn to images that they deem attainable and realistic, and then make comparisons between themselves and the idealized image. It is when there is a

discrepancy between the idealized image and the person's perceived body image that dissatisfaction can occur (Bissell, 2004).

Magazine advertisements are seen on a daily basis by men of all ages. In one study, the researchers used an experimental group consisting of male college-aged students (Leit et al., 2002). These participants viewed advertisements of muscular men, and a control group that view neutral advertisements. The hypothesis was that the experimental group would have a larger discrepancy between their actual image and their ideal image on the Somatomorphic matrix. The Somatomorphic matrix is a computer program that uses a 10 x 10 matrix of muscular male drawings, and the participants are asked to select a figure that would closely represent their actual body and their ideal body. The results were consistent with the hypothesis that men who viewed the muscular advertisements showed a larger discrepancy between their actual image and their ideal image compared to the control group (Leit et al., 2002). Cafri et al. (2002) looked at how "appearance satisfaction" relates to muscularity and body fat. It was shown that body fat dissatisfaction was not significantly related to any of the psychological dimensions. Muscle dissatisfaction was related to higher levels of depression, lower self-esteem, and less satisfaction with life (Cafri et al., 2002). These findings support the idea that a discrepancy between an ideal image and the person's perceived image can cause some psychological disturbances.

Pope, Gruber, Mangweth, Bureau, deCol, Jouvent, et al. (2000) studied men from the United States, France, and Austria to assess their perceptions of body image. Men from all three countries rated their ideal body to be more muscular than their actual body. This study did not measure the effect media has on body image, but there was a large enough discrepancy to infer that some other intervening factor might influence males to perceive their actual body image to be smaller than their ideal image. The studies in this section support the notion that there are discrepancies between the perception of an ideal body image and the males' perceived actual body image (Barlett et al., 2008, Cafri et al., 2002; Leit et al., 2002, Pope et al., 2000).

*Male athletes.* Male athletes are susceptible to having body image disturbances because their bodies are constantly being scrutinized and compared to others. Social comparison theory provides a good theoretical framework for why some athletes might experience higher levels of body image disturbances. Hausenblas and Downs (2001) used meta-analytic procedures to review published and unpublished research comparing athlete and nonathlete body image. The results indicated that overall athletes have a more positive body image than nonathletes. One

point to keep in mind is only 19.2% of the comparisons in the studies reviewed involved male athletes as participants. Also, questionnaires, such as the Body Dissatisfaction Subscale, measure a preoccupation with the appearance of body parts such as the thighs, hips, or butt area. Though these areas might be a concern for females, males generally tend to be more focused upon upper body concerns. Taking this into consideration, the results from this meta-analysis might be skewed since male body image satisfaction is not properly measured (Hausenblas & Downs, 2001)

Raudenbush and Meyer (2003) also surveyed collegiate male athletes about their body satisfaction and supplement use. The results indicated that the male athletes had a discrepancy between their current muscular image and their ideal image. Contrary to the results of Hausenblas and Downs (2001) meta-analysis, the results from Raudenbush and Meyer revealed male athletes are susceptible to having a discrepancy with their current image. Some research has narrowed the populations to specific sports to further examine male athletes and their body image disturbances. MacKinnon et al. (2003) examined body fat percentage and strength (i.e. bench press performance) and how these variables relate to athletic competence, body image, and general self-esteem in high school football players. While bench press performance results were unrelated to body image and athletic competence, body fat percentage was seen to have a significant negative correlation to body image and athletic competence (MacKinnon et al., 2003).

#### *Body Change Strategies*

Body change strategies involve behaviors that an individual might utilize to attempt to alter the size or shape of his/her physical body (McCabe & Ricciardelli, 2003). The research on body change strategies have been shown to correlate with body image disturbances and self-presentational concerns (Bardone-Cone, Wonderlich, Frost, Bulik, Mitchell, Uppala, & Simonich, 2007; Bissell, 2004; Leary et al., 1994; Martin Ginis & Leary, 2004; Pexioto Labre, 2002; Raudenbush & Meyer, 2003; Sykora, Grilo, Wilfley, & Brownell, 1993). Research has shown that males are more likely to use body change strategies to increase their muscle mass. Strategies utilized by males to change their body size include strength or endurance training, diet, and/or steroid/supplement use. These body change strategies can either be health promoting or health damaging, and it is important to see the extent each is used by male athletes (Cafri et al., 2005; Drewnowski et al., 1995; Edwards & Launder, 2000; Enns, Drewnowski, & Grinker, 1987; Grieve, Wann, Henson, & Ford, 2006; Hausenblas & McNally, 2004; Johnson, Powers, &

Dick, 1999; Kyrejtó et al., 2008; Martin et al., 2006; McCabe & Ricciardelli, 2003; Mussap, 2006; Oliosi, Grave, & Burlini, 1999; Peixoto Labre, 2002; Raudenbusch & Meyer, 2003; Ricciardelli & McCabe, 2002; Wichstrom & Pedersen, 2001). Self-presentational and body image disturbance motivations for using body change strategies will be investigated in this study.

From a self-presentational perspective, it has been hypothesized that male athletes having high levels of impression motivation would be more likely to engage in impression construction (Martin Ginis & Leary, 2004). More specifically, if an athlete has high impression motivation relative to his body, he might be more likely to engage in body change strategies than a person with low impression motivation. Body change strategies can be a part of impression construction. The key link is that an individual must be using these strategies to try and alter other's perceptions of him-self (Leary et al., 1994; Martin Ginis & Leary, 2004). Thompson and Sherman (1999a) wrote a review comparing the characteristics of a "good athlete" and an individual with anorexia. This review links together why an athlete might engage in body change strategies. The characteristic that stood out as self-presentational in nature was coachability/overcompliance. Coachability was defined as the tendency for an athlete to do what is asked of him by the coach. Individuals with anorexia have been shown to display a high need of approval from others, which is termed overcompliance (Thompson & Sherman, 1999a). Athletes who have high levels of impression motivation might be compelled to adopt body change strategies to be seen as coachable, if they believe these strategies can influence their coach's perceptions of them as an athlete. (Bardon-Cone et al., 2007; DeBruin, Oudejans, & Bakker, 2007; Olivardia et al., 2004; Thompson & Sherman, 1999a; Thompson & Sherman, 1999b).

The discrepancy between the ideal image and the actual image has been related to psychological disturbances such as low self-esteem, depression, and anger (Cafri et al., 2002; Hatoum & Belle; 2004; Martin et al., 2006; Peixoto Labre, 2002). Some males may seek to override the psychological disturbances caused by this discrepancy by employing strategies to make their current body match their ideal image. These strategies may be healthy or unhealthy, and include weight and cardio training, eating behaviors, and steroid/supplement use (Drewnowski et al., 1995; Grieve et al., 2006; Johnson et al., 1999; Peixoto Labre, 2002; Raudenbush & Meyer, 2003; Sykora et al., 1993; Thompson & Sherman, 1999b; Wichstrom et al., 2001).

In some extreme cases, males may experience muscular dysmorphia; a condition that has been characterized as the opposite of anorexia. That is, some males perceive themselves as being physically smaller than they really are and, as a consequence, go to great lengths to try to gain muscle weight (Cafri et al., 2002; Leit et al., 2002; Martin et al., 2006; Pope et al., 2000; Raudenbush & Meyer, 2003). These perceptions can cause some males to become obsessed with muscularity to a point where they will compulsively lift weights and even abuse steroids or supplements in their efforts to obtain their body ideal (Peixoto Labre, 2002; Pope et al., 2000).

Peixoto Labre (2002) reviewed literature on body image among adolescent boys and reported that 3-12% of high school seniors have used steroids at least once in their lifetime. Steroids have been known to aid in building muscle, but it can have adverse side effects such as acne, abnormal development of breast tissue, heart disease, and liver disorders (Peixoto Labre, 2002). Drewnowski et al. (1995) looked at dieting, exercise, and steroid use among adolescent males and found that the most common method to alter physical image was to use an exercise weight lifting program. Of the 2,088 adolescent males involved, only 0.6% reported using steroids. Similarly, Wichstrom and Pedersen (2001) found that 0.8% of a sample of Norwegian adolescents reported using steroids over their lifetime. A study using collegiate male athletes found that only 2% of the 883 participants used steroids in the last year (Johnson et al., 1999). These three studies are not consistent with Peixoto Labre's (2002) suggestion that 3-12% of the male adolescent population at one time in their life has used steroids either to help athletic performance or gain muscle weight. It is important to note that Drewnowski et al. (1995) and Wichstrom and Pedersen (2001) collected data from self-report questionnaires. Social desirability effects may have contaminated (i.e., lowered) the self-reported use of steroids.

Females have been found to suffer from eating disorders more than males at a 10-1 ratio (Hantoum & Belle, 2004). Males who are at risk of developing an eating disorder generally engage in symptomatic binge eating episodes (Grieve et al., 2006; Johnson et al., 1999; Oliosi et al., 1999; Sykora et al., 1993). For example, a study involving 119 male rowers showed that 12% have engaged in binge eating episodes at least two times a week (Sykora et al., 1993). It was also reported that 57% had previously used fasting techniques and experienced several weight fluctuations throughout the season. Johnson et al. (1999) collaborated with the National College Athletic Association (NCAA) in researching the prevalence of disordered eating among 1,445 student athletes. Among the 883 male athletes participating in the study, it was reported that

11.97% fit the criteria for binge eating. Overall the results indicated that 38% of the male athletes might be at risk for developing bulimia nervosa. The DSM-IV criteria for a bulimia nervosa diagnosis, a person would have to have had an episode of binge eating and use a purging method at least twice a week for three months, and have high scores on both the Drive for thinness and Body dissatisfaction subscales on the Eating Disorder Inventory-2 (Johnson et al., 1999).

In the sport of wrestling, the NCAA has established strict rules regarding weight loss techniques. The rules were implemented after 1997 when three athletes within a two month period died from a rapid weight-loss regimen. In the sport of wrestling it has been known that athletes are encouraged to compete in a weight category lower than their preseason weight for competitive advantage (Center for Disease Control, 1998). Rule 3.5 of the 2008 NCAA Wrestling Men's Rules and Interpretations Handbook states:

The use of laxatives, emetics, excessive food and fluid restriction, self-induced vomiting, hot rooms, hot boxes, saunas, and steam rooms is prohibited for any purpose. The use of diuretics at any time is prohibited by NCAA legislation for all sports. Regardless of purpose, the use of vapor-impermeable suits or any similar devices used solely for dehydration is prohibited. Artificial means of rehydration are also prohibited (National College Athletic Association Wrestling, 2008, p. 34).

Though the NCAA has implemented these rules to foster healthy weight loss, these rules were not adopted by international wrestling associations or high school divisions. Landers, Arent, and Lutz (2001) used 45 high school wrestlers for their study. It was shown that those athletes that engaged in rapid weight loss for competitions experienced less positive affective states than those athletes trying to maintain weight.

### *Purpose and Hypothesis*

It has been shown that self-presentation and body image disturbances are related to the use of body change strategies (Bardone-Cone et al., 2007; Bissell, 2004; Grieve et al., 2006; Leary et al., 1994; Martin Ginis & Leary, 2004; Pexioto Labre, 2002; Raudenbush & Meyer, 2003; Sykora et al., 1993). The main research question for this study is: How do self-presentation and body image discrepancies relate to body change strategies in male weight-class and non weight class athletes? The study aims at capturing how athletes perceive their public physical identity and what strategies they use to manage it.

Hausenblas and Downs (2001) have reported that athletes in general have a more favorable body image than non-athletes. Nonetheless, Johnson et al. (1999) have reported that some Division I male collegiate athletes exhibit symptoms of disordered eating. The reason this population might engage in body change strategies is of concern. It is believed that weight class athletes might engage in body change strategies more often than other athletes because weight class athletes (e.g. wrestlers, boxers) have to fit into rigid weight classifications in order to compete (Enns et al., 1987; Sykora et al., 1993). The hypotheses for this study were: (1) weight class athletes would engage in more body change strategies than non-weight class athletes after controlling for self-presentation and body image discrepancies, (2) athletes who have higher levels of self-presentation motivation and body image discrepancies will engage in more body change strategies, and (3) weight class athletes will have higher self-presentation and body image discrepancies than non-weight class athletes, when controlling for body change strategies.

## CHAPTER TWO

### METHODS

#### *Participants*

Male athletes were recruited for the study from weight class and non-weight class sports ( $N = 120$ ,  $age M = 21.34$  yrs,  $SD = 3.077$ ). The athletes were from the southeast region of the United States and range in age from 18-30 years. The ethnicities of the athletes were Caucasian ( $n = 70$ ), Hispanic ( $n = 22$ ), African American ( $n = 18$ ), Asian ( $n = 3$ ), and other ( $n = 7$ ). Weight class athletes ( $n = 63$ ,  $age M = 21.54$  yrs,  $SD = 3.31$ ) were recruited from boxing ( $n = 8$ ), martial arts ( $n = 17$ ), rowing ( $n = 1$ ), and wrestling ( $n = 37$ ). Non-weight class athletes ( $n = 57$ ,  $age M = 21.12$  yrs,  $SD = 2.81$ ) were recruited from baseball ( $n = 14$ ), basketball ( $n = 1$ ), fencing ( $n = 10$ ), football ( $n = 2$ ), running ( $n = 1$ ), soccer ( $n = 16$ ), swimming ( $n = 3$ ), tennis ( $n = 4$ ), and volleyball ( $n = 6$ ).

#### *Measures*

*Self-Presentation in Sport Questionnaire (SPSQ; McGowan et al., 2008; Appendix B).* The SPSQ consists of 21 items that are rated along a 5-point Likert-type scale ranging from 1 (*never*) to 5 (*always*). The questionnaire is broken down into four subscales; appearing athletically untalented (AAU, 6 items), physical appearance (PA, 5 items), fatigue/lacking energy (FLE, 4 items), and mental composure inadequacies (MCI, 6 items). A statement stem is presented before each item (i.e. "During competition I worry that other people will perceive me as..."). This was done to give emphasis to concerns about the perceptions of others. An example of an item from the SPSQ-AAU is, "appearing untalented." The SPSQ-PA subscale has items that deal with physical appearance such as, "appearing flabby." An example of an item from the SPSQ-FLE is, "appearing exhausted." An example of an item from the SPSQ-MCI is, "appearing to lose composure." According to McGowan et al. (2008), each of the subscales revealed to have adequate internal consistency ranging from .84 to .91 (AAU,  $\alpha = .91$ ; PA,  $\alpha = .89$ ; FLE,  $\alpha = .89$ ; and MCI,  $\alpha = .84$ ). Also the SPSQ contributes significantly to the prediction of cognitive and somatic state anxiety (McGowan et al., 2008), indicating adequate criterion-related validity. In the current study, it was shown for the SPSQ and each of the subscales there was adequate internal consistency ranging from .85 to .95 (SPSQ,  $\alpha = .95$ ; AAU,  $\alpha = .91$ ; PA,  $\alpha = .85$ ; FLE,  $\alpha = .93$ ; and MCI,  $\alpha = .88$ ).

*Somatomorphic matrix* (Gruber, Pope, Borowiecki, & Cohane, 1999; Appendix C). The somatomorphic matrix is bi-dimensional computerized program used to assess an individual's body image satisfaction. The male portion of the test has 100 figure drawings arranged in a 10 x 10 matrix. The 10 x 10 matrix represents 10 degrees of adiposity and 10 degrees of muscularity. In the development of the Somatomorphic matrix, the authors used photographs of male participants that ranged in fat-free mass index (FFMI) and body fat percentage. On the grid, body fat percentage ranged from 4-40% on one axis, and on the other axis FFMI ranged from 16.5-30.0 kg/m<sup>2</sup>. An average male would have a FFMI of approximately 20 kg/m<sup>2</sup>. A FFMI of 25 kg/m<sup>2</sup> has been set as the approximate upper limit of muscularity and difficult to achieve without the aid of anabolic steroids or other supplements (Gruber et al., 1999).

The participants are asked general demographic information at the beginning of the computer program (e.g. age, height, weight). Participants are then asked two items: (1) choose the image that best represents your own body and (2) choose the image that represents the body that you ideally would like to have. The matrix is then scored by examining the mean difference in the ratings of the two items. The test-retest reliability of the somatomorphic matrix items were: current muscularity ( $r = .78$ ) current body fat ( $r = .64$ ), ideal muscularity ( $r = .55$ ), and ideal body fat ( $r = .79$ ) (Cafri, Roehrig, & Thompson, 2004).

*Body Change Inventory* (BCI; Ricciardelli & McCabe, 2002; Appendix D). The BCI measures body change strategies that a person reports that they might utilize. The BCI consists of 18 items that are rated on a 5-point Likert-type scale ranging from; *never* (1) to *always* (5). There are three subscales in the BCI: (a) strategies to decrease body size, (b) strategies to increase body size, and (c) strategies to increase muscle size. According to Ricciardelli and McCabe (2002), the inventory revealed adequate reliability statistics for each of the subscales (BCI decrease body size,  $\alpha = .94$ ; BCI increase body size,  $\alpha = .94$ ; BCI increase muscle size,  $\alpha = .95$ ). Also concurrent validity has been presented for BCI measurement with the subscale strategies to decrease body size being correlated with the Eating Disorder Inventory subscale drive for thinness ( $r = .46$   $p < .001$ ) and the Bulimia Test-Revised subscale dieting factor ( $r = .53$   $p < .001$ ). In the current study, the internal consistency for the BCI and subscales ranged from .89 to .94 (BCI,  $\alpha = .89$ ; BCI decrease body size,  $\alpha = .94$ ; BCI increase body size,  $\alpha = .92$ ; BCI increase muscle size,  $\alpha = .93$ ).

### *Procedure*

Emails were sent out to sport clubs managers and coaches to inform them of the nature of the study. After the initial contact, a face to face meeting was arranged where additional questions about the study were answered. The male athletes were contacted by their coaches and asked to volunteer for the study. The questionnaire packet given to the athletes included an informed consent form, a demographic questionnaire, the SPSQ, and the BCI. The participants were asked to answer the questionnaire packet items and those included in the somatomorphic matrix. For each participant the questionnaire packet and the somatomorphic matrix took 10 to 30 minutes.

### *Statistical Analyses*

Descriptive statistics were used on all the data to obtain means and standard deviations. Hypothesis one was tested using an ANCOVA. The dependent variable was the BCI total score, the fixed variable was the weight class grouping, and the covariates were the SPSQ total score and the SMM difference in muscle and fat. For further investigation, three other ANCOVAs were used. The three ANCOVAs use the same fixed variable and covariates as hypothesis one, but uses first the BCI DW, then the BCI IW, and lastly the BCI IM as the dependent variables. The Hypothesis two was tested using a multiple regression. The dependent variable is the BCI total score and the predictors are the SPSQ total score, the SMM difference in muscle, and the SMM difference in fat. Hypothesis three was tested using a MANOVA to see if weight class athletes have higher self-presentation and body image discrepancies than non-weight class athletes. Correlations were also used to investigate relationships between the subscales of the BCI, SPSQ, and the SMM. Statistical differences were regarded as significant at  $p \leq 0.05$ .

## CHAPTER THREE

### RESULTS

Three hypotheses were tested to determine if weight class athletes and non-weight class athletes are statistically different from each other in body change strategies, self-presentation, and body image discrepancies. The means and standard deviations of the measures (BCI, SPSQ, and SMM) and subscales are shown in Table 1.

**Table 1**  
*Means and Standard Deviations for Male Athletes on the BCI, SPSQ, and SMM*

<i>Variables</i>	<u>Weight Class</u>		<u>Non-Weight Class</u>		<u>Total</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SMM Fat	2.11	1.88	1.51	1.24	1.83	1.63
SMM Muscle	2.11	1.56	1.79	1.51	1.96	1.54
SPSQ Total	2.22	0.72	2.21	0.86	2.22	0.79
SPSQ AAU	2.48	0.89	2.62	1.14	2.54	1.01
SPSQ PA	1.90	0.84	1.87	0.84	1.89	0.83
SPSQ FLE	2.51	1.03	2.06	0.92	2.29	1.00
SPSQ MCI	2.07	0.81	2.20	0.97	2.13	0.89
BCI DW	2.42	1.03	1.83	0.84	2.14	0.99
BCI IW	2.26	1.09	2.06	0.80	2.17	0.97
BCI IM	2.81	1.08	2.44	0.86	2.64	1.00
BCI Total	2.50	0.70	2.11	0.60	2.31	0.68

*Note.* SMM Fat, Somatomorphic Matrix difference in adiposity; SMM Muscle, Somatomorphic Matrix difference in muscularity; SPSQ Total, Self-Presentation in Sport Questionnaire total score; SPSQ AAU, Self-Presentation in Sport Questionnaire Appearing Athletically Untalented; SPSQ PA, Self-Presentation in Sport Questionnaire Physical Appearance; SPSQ FLE, Self-Presentation in Sport Questionnaire Fatigue/Lacking Energy; SPSQ MCI, Self-Presentation in Sport Questionnaire Mental Composure Inadequacies; BCI DW, Body Change Inventory Strategies to Decrease Body Size; BCI IW, Body Change Inventory Strategies to Increase Body Size; BCI IM, Body Change Inventory Strategies to Increase Muscle Size; BCI Total, Body Change Inventory Total Score

In order to examine if weight class athletes differ from non-weight class athletes on the total score of the BCI an ANCOVA was used. The covariates used in the ANCOVA were the SPSQ total score (SPSQ total), the SMM difference in muscularity between the current body and ideal body (SMM Muscle), and the SMM difference in adiposity between the current body and ideal body (SMM Fat). The ANCOVA showed that weight class athletes differed from non-

weight class athletes on the BCI when controlling for self-presentation and body image discrepancies,  $F(1, 119) = 7.79, p = .006, \eta^2 = .063$ . The ES for hypothesis 1 is  $d = 0.59$ , which is a medium effect size. The results from the ANCOVA, allow us to reject the null hypothesis that there would be no difference between weight class and non-weight class athletes on body change strategies after the covariates were accounted for.

**Table 2**  
*Analysis of Covariance for Weight Class and Non-Weight Class Athletes on the BCI Total Score*

Source	df	F	$\eta^2$	p
SPSQ Total	1	.591	.005	.444
SMM Fat	1	1.521	.013	.220
SMM Muscle	1	3.726	.031	.056
Weight Class	1	7.792	.063	.006*

R squared = .147 (adjusted R squared = .118)

\* p value significant at the .05 level

SPSQ Total, self-presentation in sport questionnaire total score

SMM Fat, Somatomorphic Matrix difference in adiposity

SMM Muscle, Somatomorphic Matrix difference in muscularity

Additional ANCOVAs were used to further investigate which part of the BCI that weight class and non-weight class athletes differ on. It was shown that weight class athletes differed from non-weight class athletes on the BCI DW, after controlling for self-presentation and body image discrepancies,  $F(1, 119) = 9.26, p = .003, \eta^2 = .075, d = 0.68$ . The two groups did not differ on the BCI IW,  $F(1, 119) = .956, p = .330, \eta^2 = .008, d = 0.21$ , or the BCI IM  $F(1, 119) = 3.065, p = .083, \eta^2 = .026, d = 0.39$ .

To further investigate the relationships between the BCI and the other measures, a multiple regression was run to test hypothesis two. It was shown that the predictors (SPSQ total, SMM muscle, and SMM fat) have a significant effect on the outcome (BCI total),  $F(3, 119) = 3.803, p = .012$ . The variability in the BCI total score accounted for by the SPSQ total, SMM muscle, and SMM fat was .090 (9%). Only SMM muscle uniquely contributed a significant amount of variance in prediction of BCI total,  $t(120) = 2.103, p = .038$ . SMM muscle uniquely contributed to .035 (3.5%) of the variability in the BCI total scores. The predictors' statistics in the multiple regression analysis are shown in Table 3. The multiple regression allow us to reject the null hypothesis for hypothesis two.

**Table 3**  
**Summary of Multiple Regression Analysis for Variables Predicting Total Score on the BCI**

<i>Variable</i>	<i>B</i>	<i>SE B</i>	<i>β</i>
SMM Fat	1.219	.710	.162
SMM Muscle	1.545	.735	.194*
SPSQ Total	.040	.070	.053

R= .299, R<sup>2</sup>= .090, and R<sup>2</sup> change= .090

\*p value significant at the .05 level

SMM Fat, Somatomorphic Matrix Difference in Adoposity

SMM Muscle, Somatomorphic Matrix Difference in Muscularity

SPSQ Total, Self-Presentation in Sport Questionnaire Total Score

For testing the third hypothesis a multivariate analysis of variance (MANOVA) was conducted. The dependent variables were the SPSQ total, SMM Muscle, and SMM Fat. The independent variable was the weight class or non-weight class grouping. Overall the model was not significant,  $Wilks' \lambda = .956, F(3, 116) = 1.764, p = .158, \eta^2 = .044$ . It is interesting to note, however, that one of the follow-up univariate tests (see Table 4, and Figures 1, and 2) was significant; SMM Fat,  $F(1, 119) = 4.208, p = .042, \eta^2 = .034$ . From the MANOVA results, we would fail to reject the null hypothesis for hypothesis three.

**Table 4**  
**Univariate Tests versus IV Weight Class Grouping Variable**

<i>Source</i>	<i>df</i>	<i>F</i>	<i>η<sup>2</sup></i>	<i>p</i>
SPSQ Total	1	.005	.000	.941
SMM Fat	1	4.208	.034	.042*
SMM Muscle	1	1.315	.011	.254

\*p value significant at the .05 level

SPSQ Total, self-presentation in sport questionnaire total score

SMM Fat, Somatomorphic Matrix difference in adiposity

SMM Muscle, Somatomorphic Matrix difference in muscularity

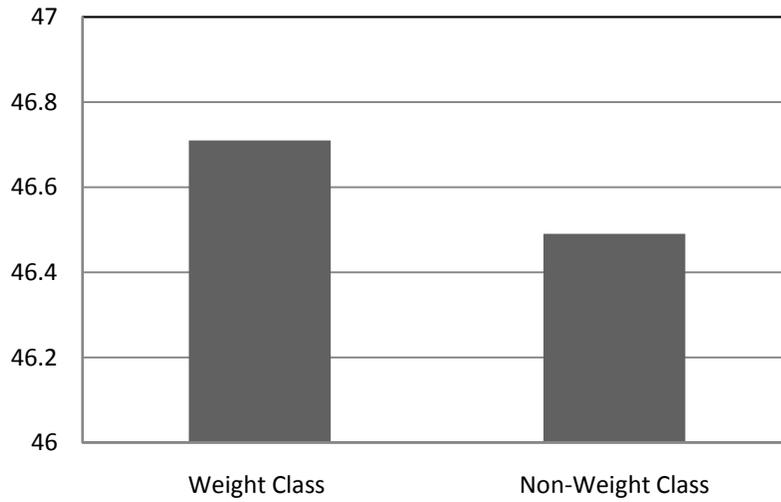


Figure 1. Means of the Self-Presentation in Sport Questionnaire Total Score for weight class and non-weight class male athletes.

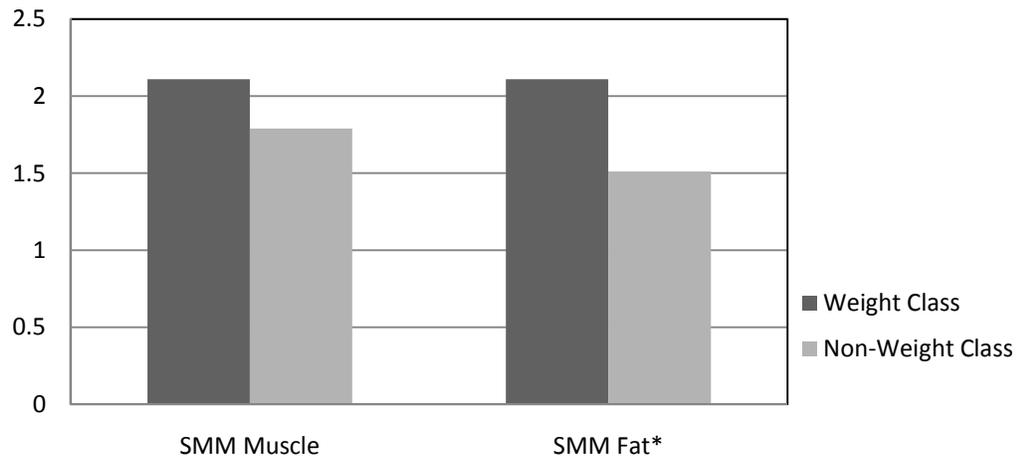


Figure 2. Means of the Somatomorphic Matrix Difference in Muscularity and Adiposity. \*p value is significant at .05 level during MANOVA univariate test. SMM Muscle, Somatomorphic Matrix Difference in Muscularity, SMM Fat, Somatomorphic Matrix Difference in Adiposity.

In investigating the third hypothesis a little further, a covariate was added to the MANOVA model. The covariate was the BCI total scores. The covariate was significant,  $Wilks' \lambda = .929, F(3, 115) = 2.952, p = .036, \eta^2 = .071$  but the overall model was not significant,  $Wilks' \lambda = .975, F(3, 115) = .970, p = .410, \eta^2 = .025$ . The overall model was not significant meaning that weight class athletes and non-weight class athletes do not differ when it comes to self-presentation or body image discrepancies.

For further investigation into the subscales, correlations were examined to look at possible relationships (see Table 6). The SPSQ subscale physical appearance (SPSQ PA) was shown to have moderate correlations with SMM Fat ( $r(120) = .380$ ), SMM Muscle ( $r(120) = .307$ ), and the BCI subscale strategies to decrease body size (BCI DW) ( $r(120) = .397$ ). Logically these subscales are related to the SPSQ PA since the self-presentation model deals with impression motivation and impression construction. Computing the correlations between the different subscales, it was seen that the BCI IW and BCI IM did not have a significant correlation with any of the other subscales that were not in the BCI. The BCI DW did have significant correlations with four of the six other subscales not in the BCI. These results show that the SPSQ subscales and the body change discrepancy in adiposity (SMM Fat) have a strong relationship with the body change strategies related to decreasing weight (BCI DW) than the body change strategies to increase weight (BCI IW) or increase muscle (BCI IM).

**Table 6****Correlations of Somatomorphic Matrix, Self-Presentation in Sport Questionnaire, and the Body Change Inventory Scales and Subscales**

	<i>SMM Muscle</i>	<i>SPSQ Total</i>	<i>SPSQ AAU</i>	<i>SPSQ PA</i>	<i>SPSQ FLE</i>	<i>SPSQ MCI</i>	<i>BCI DW</i>	<i>BCI IW</i>	<i>BCI IM</i>	<i>BCI total</i>
<i>SMM Fat</i>	.205*	.312**	.177	.380**	.307**	.251* *	.333**	.003	.116	.218*
<i>SMM Muscle</i>		.233*	.176	.307**	.209*	.121	.144	.164	.189*	.239* *
<i>SPSQ Total</i>			.894**	.786**	.757**	.886* *	.293**	-.016	.031	.149
<i>SPSQ AAU</i>				.612**	.544**	.730* *	.198*	-.030	-.020	.072
<i>SPSQ PA</i>					.513**	.584* *	.397**	.040	.097	.258* *
<i>SPSQ FLE</i>						.588* *	.286**	-.031	.083	.164
<i>SPSQ MCI</i>							.159	-.036	-.007	.056
<i>BCI DW</i>								-. .238* *	.217*	.476* *
<i>BCI IW</i>									.679* *	.689* *
<i>BCI IM</i>										.913* *

\* . Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

*Note.* SMM Fat, Somatomorphic Matrix difference in adiposity; SMM Muscle, Somatomorphic Matrix difference in muscularity; SPSQ Total, Self-Presentation in Sport Questionnaire total score; SPSQ AAU, Self-Presentation in Sport Questionnaire Appearing Athletically Untalented; SPSQ PA, Self-Presentation in Sport Questionnaire Physical Appearance; SPSQ FLE, Self-Presentation in Sport Questionnaire Fatigue/Lacking Energy; SPSQ MCI, Self-Presentation in Sport Questionnaire Mental Composure Inadequacies; BCI DW, Body Change Inventory Strategies to Decrease Body Size; BCI IW, Body Change Inventory Strategies to Increase Body Size; BCI IM, Body Change Inventory Strategies to Increase Muscle Size; BCI Total, Body Change Inventory Total Score

## CHAPTER FOUR

### DISCUSSION

The aim of this study was to examine weight class and non-weight class male athletes and their relationship between body change strategies, self-presentation, and body image satisfaction. For this study, body image is defined as how people perceive their outward physical appearance (Cahill & Mussap, 2007; Hausenblas & Downs, 2001; Kyrejto et al., 2008; Ricciardelli & McCabe, 2002). Self-presentation refers to a process where a person can consciously or unconsciously attempt to control how others perceive them (Gammage, Martin Ginis, & Hall, 2004; James & Collins, 1997; Leary & Kowalski, 1990; Martin, et al. 2006; Wilson & Eklund, 1998). Body change strategies were assessed using the BCI. The BCI is divided into decreasing body size, increasing body size, and increasing muscle (Ricciardelli & McCabe, 2002). The study involved the testing of three hypotheses relative to weight class and non-weight class athletes.

The first hypothesis specified that weight class athletes would engage in more body change strategies than non-weight class athletes after controlling for self-presentation and body image discrepancies. The results indicated that there is evidence to support that weight class athletes engaged in more body change strategies than non-weight class athletes. These findings support the assumptions of some researchers that weight class athletes engage in more body change strategies due to the nature of their sport (Enns et al., 1987; Launders et al., 2001; Sykora et al., 1993). After further investigation, it was shown that weight class athletes engaged in more body change strategies to decrease weight than non-weight class athletes. These findings go against previous research where results have indicated that males are more likely to use body change strategies to increase muscles rather than to decrease weight (Cafri et al., 2005; Drewnowski et al., 1995; Edwards & Launder, 2000; Enns, Drewnowski, & Grinker, 1987; Grieve, Wann, Henson, & Ford, 2006; Hausenblas & McNally, 2004; Johnson, Powers, & Dick, 1999; Kyrejto et al., 2008; Martin et al., 2006; McCabe & Ricciardelli, 2003; Mussap, 2006; Oliosi, Grave, & Burlini, 1999; Peixoto Labre, 2002; Raudenbusch & Meyer, 2003; Ricciardelli & McCabe, 2002; Wichstrom & Pedersen, 2001). The other two subscales of the BCI, increasing weight and increasing muscle, were shown not to be significant. Weight class athletes (i.e. wrestlers, boxers) are required to fit into rigid weight class in order to compete (Enns et al.,

1987; Sykora et al., 1993). Due to these restrictions of weight class sports and the results from this sample, one can assume that body change strategies play an important part in sports that have a designated weight class.

The second hypothesis specified that athletes with higher self-presentation and body image discrepancy scores would engage in more body change strategies. It was observed that self-presentation and the body image discrepancy scores had a significant relationship on the outcome of the amount body change strategies. Though the overall model was significant, only the discrepancy between the current and ideal muscularity score was a significant predictor of the amount of body change strategies in the model. Cahill and Mussap (2007) observed similar findings in their study. They also found that males engaged in more strategies to gain muscle mass to help obtain their ideal image. As previously mentioned, having an athletic body type might allow a person to be stereotyped by others as having higher social status, being self-disciplined, and being physically healthy (Martin Ginis & Leary, 2004). Knowing about these stereotypes might have an influence on the outcome of the amount of body change strategies utilized by an athlete.

In hypothesis three it was specified that weight class athletes would have increased self-presentation and body image discrepancies compared to non-weight class athletes after controlling for body change strategies. From the results, we would fail to reject the null hypothesis. The overall results did not show that weight class athletes differed from non-weight class athletes on self-presentation or body image discrepancies. The non-significant results for this hypothesis could be that weight class and non-weight class athletes experience the same amount of self-presentation and body image discrepancies, and thus there would be no difference.

The last section of the results related to how the subscales correlated with each other. It was interesting to look at how self-presentation related to the other measurement scales. The discrepancy between the current and ideal adiposity and muscularity scores and the body change strategies to decrease body size were moderately related to the overall self-presentation scores. Also self-presentation in regards to physical appearance had moderate correlations with discrepancies between the current and ideal adiposity and muscularity scores, overall body change strategies, and more specifically body change strategies to decrease body size.

The variables used for the correlation analysis give some evidence to Leary and Kowalski's (1990) impression management model. The model is divided into impression motivation and impression construction. It has been hypothesized by Martin Ginis and Leary (2004) that an individual who has high levels of impression motivation would be more likely to engage in strategies to help create their desired image (i.e. impression construction). The data from the correlational analysis reveal that the impression motivation components of this study (i.e. self-presentation and the discrepancy between the current and ideal image) are related to each other. More importantly the correlational results show that there is a relationship between impression motivation and impression construction (i.e. body change strategies). Knowing that there is a relationship between the two parts of the impression management model warrants additional research.

#### *Strengths, Limitations, and Future Research*

The current study has made significant contributions to the research, but it is not without its limitations. The target population of male weight class and non-weight class athletes in this study has added to the research literature. It is rare that males would be studied in regard to body image. Usually females are studied instead of males because eating disorders are diagnosed at a higher levels than males, and females have been traditionally been judged harsher on their appearance as compared to males (Bissell, 2004; Cahill & Mussap, 2007; Hausenblas & Downs, 2001; Krane et al., 2004). More specifically dividing the sample into weight class and non-weight class athletes is a population that is rarely looked into in the research. If male athletes are studied at all in regards to body image or body change strategies it is usually in comparison to non-athletes (Hausenblas & Downs, 2001).

The use of certain variables to help control for influences on the outcome adds to the strength of this study. Controlling for self-presentation and body image discrepancies helped isolate that weight class athletes and non-weight class athletes really differed in regards to the amount of body change strategies utilized. Though there might be some other unaccounted for mediating factors, it is a step in the right direction when looking at the differences between the two groups. The results of this study also have real world applications for coaches and sport psychologists alike. Knowing that weight class athletes will more likely engage in body change strategies can give coaches and sport psychologist the upper hand. Specifically coaches can monitor their athletes' body change strategies and keep an eye on healthy versus non-healthy

body change strategies utilized by the athletes. Sport psychologists can encourage the weight class athletes to use motivational and goal setting techniques to aid the athlete in their weight gain/loss methods.

Though the target population is somewhat unique to the literature, two areas of the population were not accounted for in the investigative design, experience and skill level. Having a more standardized sample in regard to experience and skill level might have produced different results. Also, most of the weight class sports in this sample are individual sports (i.e. wrestling, boxing), while most of the non-weight class sports are team sports (i.e. baseball, soccer). This might have been a mediating factor when it came to the self-presentation results. It has been noted that athletes' behaviors on the court/field are public, and a public image is more likely to be evaluated by themselves and others causing an increase in athletes' self-presentational concern (James & Collins, 1997). Further research may be beneficial in regards to self-presentation in team sports versus individual sports.

Another limitation is that the body change strategies measure does not look at healthy versus unhealthy methods. The results indicated that weight class athletes engage in more body change strategies than non-weight class athletes, but it does not differentiate between healthy and unhealthy practices. Research has stated that the "ideal" male body is overtly muscular, has a well-developed chest, large shoulders and biceps, and a tapered waist (Barlett, et al. 2008; Hatoum & Belle, 2004; Leit et al., 2002). Keeping this in mind, the Somatomorphic matrix does not allow for manipulations on the figure drawings in these areas. The matrix is a step in the right direction when it comes to figure drawings, since it does allow for manipulation to adiposity and muscularity. Although it is a step in the right direction changes need to be made to it to adequately measure body image discrepancies in males. It is important to mention that since the questionnaires are self-report, it is difficult to see if the athletes actually engaged in the behaviors that were reported.

This study has provided some support of questions in this research area, but it has revealed more questions. Research is needed pertaining to impression motivation and construction. This will only help strengthen the impression management model proposed by Leary and Kowalski (1990). Looking at the limitations of the study it has revealed different ways this study could be strengthened. In future research it is important to look at the experience/skill level of the participants. Novices and experts could sway the results in one way or another. It is

also important to notice the differences between individual and team sports. It would be interesting to see if there is a difference between the two groups on a self-presentational level.

### *Concluding Remarks*

The purpose of this study was to examine the relationship between self-presentation, body image satisfaction, and body change strategies in male weight class and non-weight class athletes. It can be inferred from that results that there is a significant difference between weight class and non-weight class athletes in the amount of body change strategies utilized after controlling for self-presentation and body image discrepancies. Based on the strengths, limitations, and future research more research is warranted in this area to improve the current study by improving measurements, using different populations, and strengthening theoretical models. This study has not only added to the research literature but has use in the applied setting for coaches and applied sport psychologists. In conclusion it is important to continue studying how male athletes perceive their public identities and images, and how the research and applied settings can work together to improve on the overall sporting environment.

APPENDIX A

INFORMED CONSENT

I \_\_\_\_\_, freely, voluntarily, and without element of force or coercion, consent to be a participant in the research project entitled “The Relationship between Self-presentation, Body Image Satisfaction, and Body Change Strategies in Weight Class and Non-Weight Class Male Athletes.” This research project is being conducted by Amanda Cruz, who is a Master’s student in Sport Psychology at Florida State University. Her faculty advisor for the project is Dr. Robert Eklund, Ph.D, a faculty member in the Department of Educational Psychology and Learning Systems. I understand the purpose of this research is to better understand the relationship between male athlete’s self-presentation, body image satisfaction, and the strategies that might be used to alter his physique. I understand that my participation in this study involves completing paper and pencil questionnaires and one computer-based questionnaire and that the time commitment will be about 20 to 45 minutes.

I understand that my participation in this study is completely voluntary and that I may stop participation at any time throughout the study. All my answers to the questions will be kept confidential to the extent allowed by the law and my answers will be identified by a subject code number. The researcher will store the data and the informed consent forms separately. I also understand that my name will not appear on any of the results making it anonymous and that no individual responses will be reported, but rather only group findings will be reported.

I understand that there are minimal risks involved in my participation in this research project, but the risks are not greater than encountered in everyday life. However, referrals for sport psychology and counseling services can be arranged if the need arises. There is no direct benefit to the participant beyond those that might be experienced by the sport psychologists to better understand issues of self-presentation, body image, and body change strategies.

I understand that this consent may be withdrawn at any time without prejudice, penalty or loss of benefits to which I am otherwise entitled. I have been given the right to ask questions concerning this study. Questions, if any, have been answered to my satisfaction.

I understand that I may contact Amanda Cruz, Florida State University, (956) 286-6884, Dr. Robert Eklund (850) 645-2909, or the FSU Human Subjects Committee, (850) 644-9694 for answers to questions about this research or my rights.

Participants must be at least 18 years of age to participate.

I have read and understand this consent form.

---

(Participant)

---

(Date)

Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 9/3/2009

To: Amanda Cruz

Address: 2350 Phillips Rd Apt 5105 Tallahassee, FL 32308

Dept.: EDUCATIONAL PSYCHOLOGY AND LEARNING SYSTEMS

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research

The relationship between self-presentation, body image satisfaction, and body change strategies in weight class and non-weight class male athletes

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 9/2/2010 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

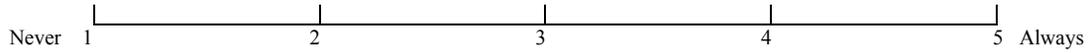
Cc: Robert Eklund, Advisor  
HSC No. 2009.2834

## APPENDIX B

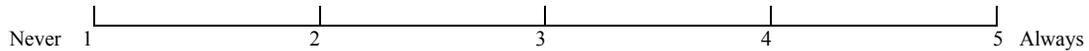
### SELF-PRESENTATION IN SPORT QUESTIONNAIRE

During competition I worry that other people will perceive me as...

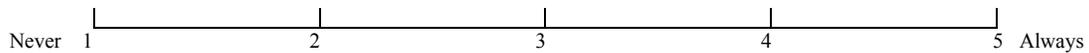
1. Appearing exhausted



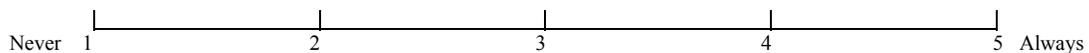
2. Appearing flabby



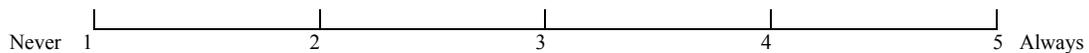
3. Appearing untalented



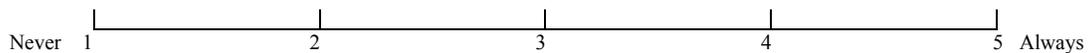
4. Appearing fatigued



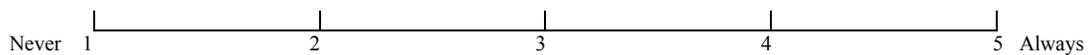
5. Appearing physically untoned



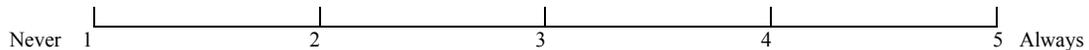
6. Appearing athletically incompetent



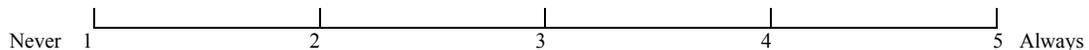
7. Appearing tired



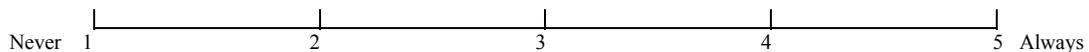
8. Appearing ugly or unpleasant in my uniform



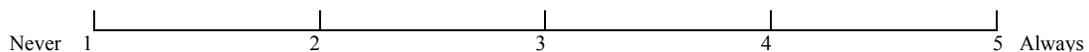
9. Appearing physically unattractive



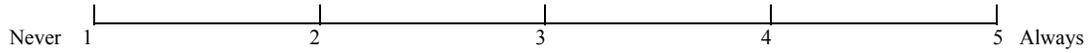
10. Appearing Underskilled



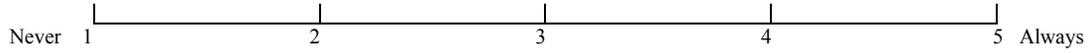
11. Appearing to lose composure



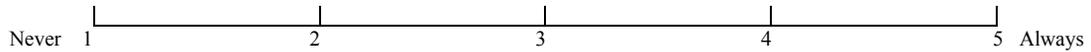
12. Appearing too small or too big in my uniform



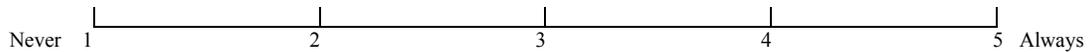
13. Appearing not to perform or execute perfectly



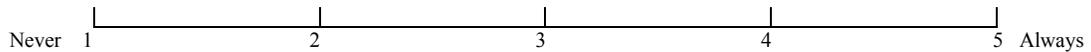
14. Appearing Distressed



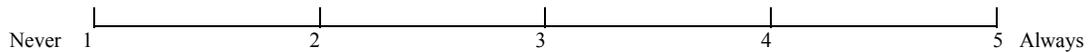
15. Appearing to lack ability



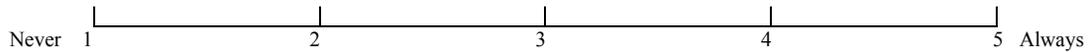
16. Appearing to lack energy



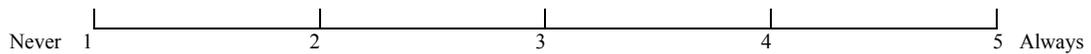
17. Appearing unqualified



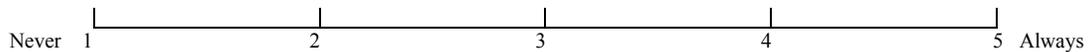
18. Appearing unfocused



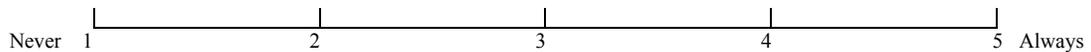
19. Appearing underactivated



20. Appearing nervous under pressure



21. Appearing to lack necessary focus



## APPENDIX C

### SOMATOMORPHIC MATRIX: SCREEN SHOTS

#### Information About Yourself

**Subject number**

**What is your first name?** \_\_\_\_\_

**How old are you?** \_\_\_\_\_

**What is your ethnic background?** \_\_\_\_\_

**Where do you live?** \_\_\_\_\_

**What is your sexual orientation?** \_\_\_\_\_

Next

#### Instructions

The computer is going to ask you a series of questions about body image. The computer will begin by showing you a male image. You can then make the image fatter or thinner and more or less muscular by clicking the "buttons" on the screen. Adjust the fatness and muscularity using the "buttons" until you have chosen the image that you feel best answers the question. Then click the "select button" to choose this image. The computer will then present you with the next question.

Next

# DATA

Subject Number

Back to Main Page

Gender Male

Matrix Selections (1, fat, musc)

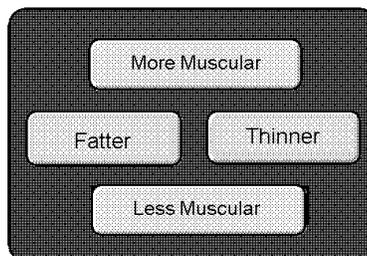
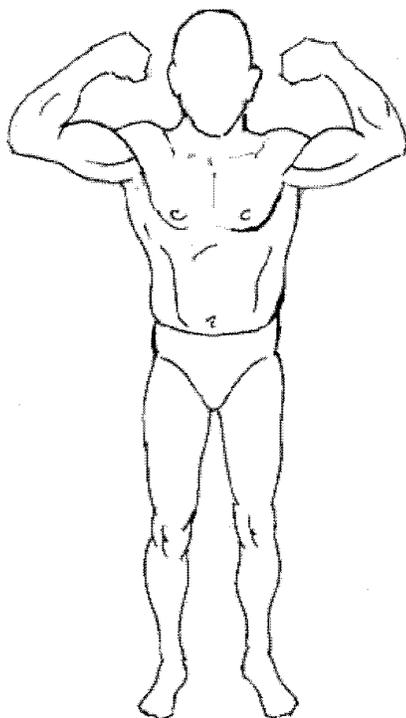
Measured Data

Calculated Data

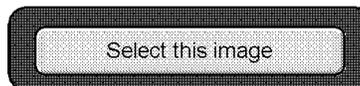
Your Body	Height (in) _____	% Bodyfat -1.74%
Your Goal	Weight (lbs) _____	FFMI ?
Average Body	triceps _____	nFFMI ?
Ideal M Body	quadriceps _____	
Attract F Body	suprailiac _____	
Attract M Body	abdominal _____	
	pectoralis _____	
	subscapular _____	

Measured Body Fat  
(manual entry - not used)

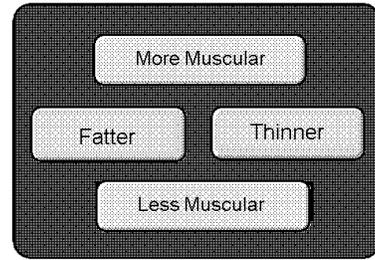
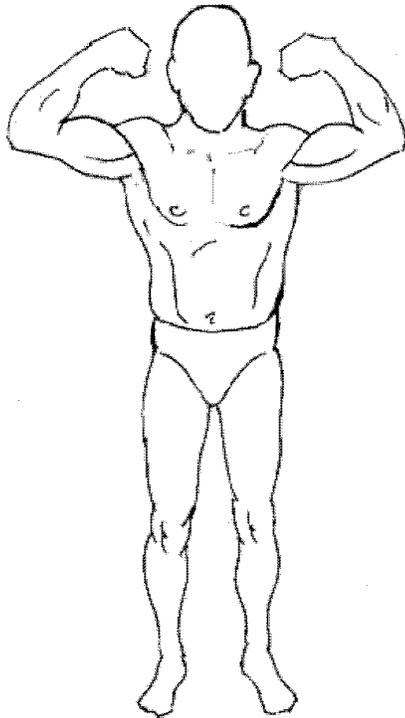
## Somatomorph Matrix



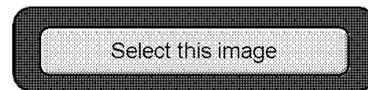
Please choose the image  
which most closely  
resembles your own body.



# Somatomorph Matrix



Please choose the image that represents the body that you ideally would like to have.

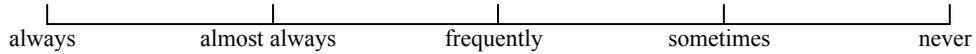


APPENDIX D

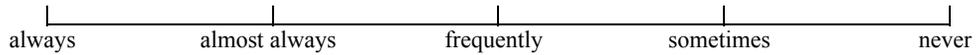
BODY CHANGE INVENTORY

**Body Change Strategies to Decrease Weight**

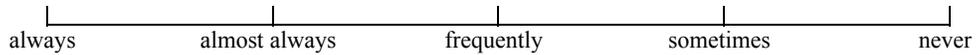
1. How often do you feel like changing the types of foods you eat so that you can lose weight?



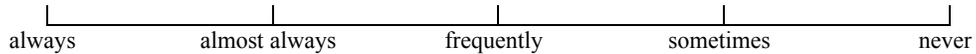
2. How often do you change your eating to decrease your body size?



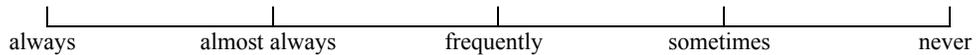
3. How often do you change your levels of exercise to decrease your body size?



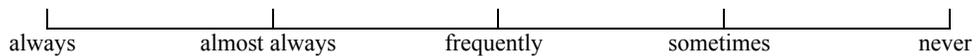
4. How often do you think about changing your levels of exercise to decrease your body size?



5. How often do you worry about changing your eating to decrease your body size?

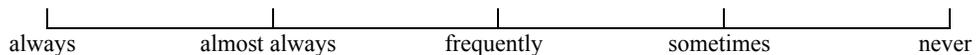


6. How often do you think about exercising to lose weight?

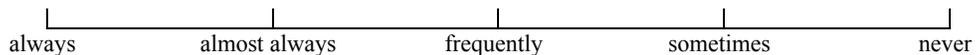


**Body Change Strategies to Increase Weight**

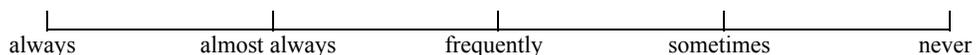
1. How often do you change your eating to increase your body size?



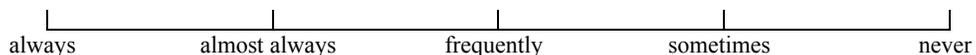
2. How often do you change your levels of exercise to increase your body size?



3. How often do you think about changing your eating to increase your body size?



4. How often do you think about changing your levels of exercise to increase your body size?



5. How often do you worry about changing your eating to increase your body size?

always                      almost always                      frequently                      sometimes                      never

6. How often do you worry about changing your levels of exercise to increase your body size?

always                      almost always                      frequently                      sometimes                      never

### Body Change Strategies to Increase Muscles

1. How often do you change your levels of exercise to increase the size of your muscles?

Always                      almost always                      frequently                      sometimes                      never

2. How often do you change your food supplements to increase the size of your muscles?

Always                      almost always                      frequently                      sometimes                      never

3. How often do you think about changing your eating to increase the size of your muscles?

Always                      almost always                      frequently                      sometimes                      never

4. How often do you think about changing your levels of exercise to increase the size of your muscles?

Always                      almost always                      frequently                      sometimes                      never

5. How often do you worry about changing your eating to increase the size of your muscles?

Always                      almost always                      frequently                      sometimes                      never

6. How often do you worry about changing your levels of exercise to increase the size of your muscles?

Always                      almost always                      frequently                      sometimes                      never

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## BIOGRAPHICAL SKETCH

Amanda Cruz was born in Honolulu, Hawaii in 1985. She has participated in several sports throughout the years. In 2003 after graduating from John B. Alexander High School in Laredo, Texas, she received a scholarship to play volleyball at Texas A&M International University. After four years at TAMIU, Amanda received her Bachelor's degree in Psychology with a minor in Art History. While completing her Master's degree at Florida State she worked as a graduated assistant in the Learning Resource Center. She was also an active member in the Applied Sport Psychology program. After completing her Master's degree in Summer 2010, Amanda will continue her education at Florida State in hopes to be a certified applied sport psychology consultant through the Association of Applied Sport Psychology.