THE RELATIONSHIP BETWEEN VALUES OF MUSCULARITY, DRIVE FOR MUSCULARITY, AND GENDER ROLES: AN EXMINATION OF MALE BODY IMAGE

A Thesis

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By

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This study examined the relationship between musculature and gender roles. Several scholars have suggested that body image is an increasingly relevant issue for men. Musculature has been identified as one component most salient to men. Past literature has also found that gender roles constructs can moderate body image expression. In this study, 141 male participants took the Swansea Musculature Attitudes Questionnaire, Bem Sex Roles Inventory, and the Perceived Somatotype scale, and a demographics questionnaire. It was hypothesized that values of musculature and drive for musculature would be related to an instrumental gender role. ANOVA and correlational analysis failed to support this hypothesis. A small relation was found between expressiveness and valuing musculature. Further analysis revealed that an individual’s self-perception of being muscular was related to valuing musculature, and ideal perception was related to seeking and valuing musculature. These results overall suggest that gender roles constructs are not relevant factors for musculature. Results also suggest that the way individuals perceive themselves and their ideal body is related to how salient musculature is to them as a component of body image. Other potentially relevant variables for future examination are discussed in conclusion.
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Acknowledgments</td>
<td>iii</td>
</tr>
<tr>
<td>Vita</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>vii</td>
</tr>
<tr>
<td>Chapters:</td>
<td></td>
</tr>
<tr>
<td>1. Introduction</td>
<td>1</td>
</tr>
<tr>
<td>2. Literature Review</td>
<td>7</td>
</tr>
<tr>
<td>Sex Differences In Body Image</td>
<td>8</td>
</tr>
<tr>
<td>Body Image Research on Men</td>
<td>13</td>
</tr>
<tr>
<td>Gender Roles and Body Image</td>
<td>19</td>
</tr>
<tr>
<td>Summary</td>
<td>24</td>
</tr>
<tr>
<td>3. Method</td>
<td>25</td>
</tr>
<tr>
<td>Participants</td>
<td>25</td>
</tr>
<tr>
<td>Instruments</td>
<td>26</td>
</tr>
<tr>
<td>The Swansea Muscularity Attitudes Questionnaire</td>
<td>26</td>
</tr>
<tr>
<td>The Bem Sex Roles Inventory</td>
<td>26</td>
</tr>
<tr>
<td>The Perceived Somatotype Scale</td>
<td>29</td>
</tr>
<tr>
<td>Procedure</td>
<td>29</td>
</tr>
<tr>
<td>4. Results</td>
<td>31</td>
</tr>
<tr>
<td>Descriptive Statistics and Preliminary Analyses</td>
<td>31</td>
</tr>
<tr>
<td>Main Hypotheses</td>
<td>32</td>
</tr>
<tr>
<td>Analysis of Perceived Somatotype Scales</td>
<td>34</td>
</tr>
<tr>
<td>Muscular Self Perception</td>
<td>36</td>
</tr>
<tr>
<td>Demographics</td>
<td>37</td>
</tr>
</tbody>
</table>
5. Discussion ................................................................. 51

Appendices ........................................................................ 58

Appendix A: The Swansea Muscularity Attitudes Questionnaire ............ 58
Appendix B: The Bem Sex Roles Inventory .................................. 59
Appendix C: The Perceived Somatotype Scale #1 ............................ 61
Appendix D: The Perceived Somatotype Scale #1 ......................... 62
Appendix E: Demographics Questionnaire .................................. 63

List of References ................................................................ 64
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Means, Standard Deviations, and Cronbach's Alpha for the PAM, DFM, Instrumentality, and Expressiveness Scales.</td>
<td>39</td>
</tr>
<tr>
<td>4.2</td>
<td>Analysis of Variance for Order Effects on the PAM, DFM, Instrumentality, and Expressiveness Scales.</td>
<td>40</td>
</tr>
<tr>
<td>4.3</td>
<td>Analysis of Variance of the DFM and PAM Scales with Bem Median Split Groupings as Independent Variables.</td>
<td>41</td>
</tr>
<tr>
<td>4.4</td>
<td>Overall Correlations Among the Instrumentality, Expressiveness, DFM, and PAM Scales.</td>
<td>42</td>
</tr>
<tr>
<td>4.5</td>
<td>Distributions of the Self-Somatotype and Ideal Somatotype Scales.</td>
<td>43</td>
</tr>
<tr>
<td>4.6</td>
<td>Analysis of Variance of the DFM and PAM Scales with Self Somatotypes as Independent Variables.</td>
<td>44</td>
</tr>
<tr>
<td>4.7</td>
<td>Kruskal-Wallis One-way Analysis of Variance by Ranks for the PAM and DFM scales with Ideal Somatotype as a Grouping Factor.</td>
<td>45</td>
</tr>
<tr>
<td>4.8</td>
<td>Overall Correlations Among Muscular Self Perception and the DFM and PAM Scales.</td>
<td>46</td>
</tr>
</tbody>
</table>
4.9 Distributions of Race, Age, Year, Sexual Orientation, Weight, Height, Sports Participation in High School, and Sports Participation in College................................................................. 47

4.10 Analysis of Variance of the DFM and PAM Scales with College Sports Participation, Height, Weight, and Height x Weight as Independent Variables................................................................. 48

4.11 Kruskal-Wallis One-way Analysis of Variance by Ranks for the PAM and DFM scales with Weight Categories as a Grouping Factor.... 49

4.12 Kruskal-Wallis One-way Analysis of Variance by Ranks for the PAM and DFM with Race Categories as a Grouping Factor................. 50
CHAPTER 1

INTRODUCTION

A very visible area of research in psychology is that on body image. Although this subject is often examined, it is rarely defined, and when it is done so, the definitions across studies are inconsistent (Keeton, Cash, & Brown 1990). However, consistent themes exist in the literature. Mazzeo (1999) discussed three main factors measured by extant measures: perception (accuracy of self-estimates), attitudes (level of satisfaction with one’s shape), and preoccupation (strength and frequency of negative attitudes). Furthermore, the main findings of the literature have been notably consistent. Researchers have found relationships between body image and self esteem (Lerner, 1973; Silberstein, Striegel-Moore, Timko, & Rodin, 1988; Mintz & Betz, 1986), depression (Holson, Kraft, Roysamb, 1981), eating disorders (Garner & Garfinkel, 1982), neuroticism (Tucker, 1984), and other indices of mental health. Overall, the literature suggests that negative body image is related to poor mental health and several psychological disorders. It has also been noted that changes in the images presented by the media are leading to increasingly unrealistic beauty ideals (Garner & Garfinkel, 1980), which could lead to increasing body image issues in society. Thus, body image
could become an even more important issue to study, as it is a growing issue with serious mental health implications

Although body image has clearly been considered an important area of research in psychology, there is one group for whom this has been an exception: men. Most of the literature prior to the 1980's described body image as only a female problem (Erickson, 1968; Lerner, 1973; Brownell, 1991; Cohane & Pope, 2000). When men were included in studies, findings often supported the conclusion that body image was more important for women and not really an issue for men (Fallon & Rozin, 1985; Pliner, Chaiken, & Flett 1990).

Despite such theories and data suggesting body image is not a factor for men, recent studies have suggested the contrary. These studies have shown that some men are dissatisfied with their bodyweight and shape, although some findings suggest generally less so than women (Franco et al., 1988), while others find dissatisfaction at the same rate (Mintz & Betz, 1986; Drewnowski & Yee, 1987). Furthermore, studies have shown definite differences between men and women in the nature of body dissatisfaction. In general, females have been found almost without exception wanting to lose weight, while studies show that men often, if not typically, desire to gain weight (Mintz & Betz, 1986; Drewnoski, 1987; Silberstein et al., 1988; Betz, Mintz, & Speakmon, 1994; Pope, Gruber, Mangweth, Bureau, deCol, Jouvent, & Hudson, 2000; Cohene & Pope, 2001). Body change strategies also often differ between males and females, with men typically preferring exercise over diet and females diet over exercise (Huon, 1994; McCabe & Ricciardelli, 2001). Thus, these more recent studies not only suggest that body image can
be important for men, but also that body image issues salient for men are qualitatively
different from those faced by women. Despite these findings suggesting major
differences in the nature of body image in men and women, little research has focused on
the unique factors important to understanding male body image.

One component of body image that seems promising in developing a better
understanding of male body image is muscularity. As previously noted, studies have
shown that men typically wish to gain weight, in contrast to women. This common desire
to gain weight in males is likely linked to a desire to have increased muscle mass
Relatedly, while muscle development is often an important issue for men, it is typically
found not important for women (Fisher, Dunn, & Thompson, 2002). Other studies have
indicated that there are increasing socio-cultural messages related to muscularity
(Mishkind, Rodin, Silberstein, & Strieggle-Moore, 1986: Pope, Olivardia, Gruber, &
Borowiecki, 1999; Leit, Pope, & Gray, 2001; Leit, Gray, & Pope, 2002; Labre, 2002).
Recent literature has also identified the existence of muscle dysmorphia, a type of body
dysmorphic disorder that involves a pathological preoccupation with muscle size, which
is more prevalent in men than women (Pope, Gruber, Choi, Olivardia, & Phillips, 1997).
These findings suggest that muscularity is an important component of male body image,
and that in extreme cases muscularity concerns can be related to disorders. Paired with
the finding that messages related to muscularity are increasing in the media, it is likely
that such disorders may become more common in the future. Despite such findings, there
has overall been little examination of muscularity and of the factors related to it.
A number of studies suggest that certain factors may influence the salience of body image in men. For example, several studies have examined the relationship between race and sexual orientation with body image (Altabe, 1998; Miller, Gleaves, Hirsch, Green, Snow, & Corbett, 2000; Boroughs & Thompson, 2002), suggesting that both of these factors can differentially impact the salience of body image among groups of men. Another area of research that might be useful in gaining a better understanding of male body image in general and muscul arity in particular is gender roles research. Although the meaning of this term varies, Lenney (1991) provides a useful general definition: gender roles are “those characteristics that actually differentiate the sexes, are stereotypically believed to differentiate the sexes, or are considered to be differentially desirable in the two sexes” (p.573). The literature on gender roles has a vast and long history. The basic two constructs of focus in this area are masculinity and femininity. Despite a wealth of measures of these constructs, definitions of these constructs are inconsistent, elusive, and unclear (Constantinople, 1973; Lenny, 1991; Hoffman, 2001).

In spite of the problems in this area, previous literature has also suggested that gender roles constructs can be useful in understanding body image. Gender roles are commonly examined in relation to other characteristics and behaviors (Hoffman, 2001). In particular, some past research has focused on the relation between gender roles and body image (Kimlicka, Cross, & Tarnai, 1983; Jackson, Sullivan, & Rostker, 1988; Davis, Dionne, & Lazarus, 1996). In general, such studies have shown that gender roles can play an important moderating role in the expression of body image issues. That is, differing conceptions of gender are related to the psychological impact of body image. It is
therefore a logical step, based on the past literature, to apply these constructs to the examination of muscul arity. This also makes intuitive sense, as muscul arity can be described as serving a gender role. Concern over muscul arity seems to differentiate men and women, as studies have indicated. Women do not tend to desire increased muscle mass, but wish to be thinner. Men, on the other hand, typically wish to have a notably more muscular physique. Therefore, if muscul arity differentiates the sexes, opinions about muscul arity may be related to an individual’s gender role perception. This may help explain how within-gender perceptions vary.

The purposes of the current study were twofold. The first purpose of this study was to add to the existing knowledge of the nature of body image in men. Muscul arity was the particular focus for this study. More specifically, views of muscul arity and the drive to become muscular were compared to self-reports of gender roles. It was hypothesized that self-reports of an instrumental gender role would be related to both higher valuing of muscul arity and to increased behaviors related to muscul arity. Instrumentality was originally theorized as a set of stereotypically “masculine” attitudes. Since muscul arity seems to differentiate the sexes, it may be that there is a relation between valuing muscul arity and self-identification with stereotypically masculine attitudes. Post hoc attempts were also be made to discern whether any subgroups reveal significant differences. Because of the relatively uncharted nature of this topic area, theses analyses were exploratory in nature. These analyses involved both demographic data, an additional two questions related to self-perception of muscul arity, and a scale of somatotypes to represent a participant’s own body type and their ideal body type. A second purpose of
this study was to collect further psychometric data on a new measure of muscularity, The Swansea Muscularity Attitudes Questionnaire. This second purpose is important, since there is a paucity of measures in this area. Gathering evidence for the reliability and validity of this measure, one of the only extant measures dedicated to muscularity, is important for increasing confidence in the results of this study and other studies in the future that may use this instrument.
CHAPTER 2

LITERATURE REVIEW

There is a vast literature concerning the mutual areas of body image and gender roles. Along with the usual focus on theory, instruments, and validity evidence of these instruments, numerous studies exist linking both areas to a variety of other psychological constructs. Therefore, giving an overview of both areas would be an enormous task. For the purposes of this review, the coverage of each area will be proscribed.

The review of body image will be limited to literature apropos to male body image, as their exists an even larger literature concerning female body image only. As previously discussed, research on men makes up a proportionally smaller part of this literature. In general, whenever men are involved in studies, it is to examine gender differences. Despite this general trend, there are a growing number of studies on men. This review will take place therefore in two forms: a review of literature on sex differences in body image, and a review of literature focusing primarily on men.

Much like body image literature, gender roles literature is vast. The review of this literature will be limited to studies investigating links between gender roles constructs
and body image. The purpose of this focused review is to highlight literature that suggests that body image expression can be influenced by gender role perception. In such a manner, the purposes of the present study will be given a context and rationale.

Overall, this literature has several purposes. First, to show that body image issues are salient issues for men. Second, to show body images issues are qualitatively different for men and women. Third, to show that socio-cultural pressures may be increasing the salience of body image consciousness for men. Fourth, to show that muscularity is an aspect of body image important to men. And fifth, to show that gender roles constructs have been linked to body image, and may thus be linked to muscularity.

**Sex Differences In Body Image**

Before discussing literature supporting the basis for this study, it is important to note that there are some extant studies related to sex differences in body image that suggest body image issues are not salient issues for men. Erik Erickson, in *Identity: Youth and Crisis* (1968), postulates that physical attributes play an important role in identity formation. However, the meaning of these attributes differs for the sexes. Identity in women tends to be based around attractiveness, how well they can attract a mate. For men, identity tends to be formed around how they act in the world. Thus, for women, their body is important in and of itself, while for men, it is not so much their body but what it does that is important. It follows that threats to these attributes in each sex will lead to identity problems.

Lerner, Knapp, and Orlos (1976) examined Erickson’s theory empirically. Specifically, they looked at how body attitudes predicted self-concept in late adolescence.
They found that high perceptions of attractiveness indicated positive self-concept in women. On the other hand, they found that high levels of effectiveness indicated positive self-concept in men. This empirical finding supports Erickson’s theory. Similarly, Brownell, in Behavior Therapy (1991), examined self-esteem in men and women. Women’s self-esteem tended to be predicted by their beauty ideals. On the other hand, men’s self-esteem tended to be based on a variety of factors such as intelligence, economic status, and physical prowess.

One more study will be reviewed that does not support the hypothesis that body image issues are salient for men. Rozin and Fallon (1988) compared men and women in terms of body image, attitudes towards weight, and misperceptions of figure preference. Questionnaires designed for this study were administered to 97 families. This included: 55 daughters, 42 sons, 97 fathers, and 97 mothers. All groups but the sons considered their current weight heavier than their ideal. Mothers and daughters believed that men prefer much thinner figures than the men actually preferred. Mothers and daughters also showed concern over weight and eating. Fathers and sons were relatively unconcerned about weight and eating. The authors conclude that sex, rather than generation or self and ideal discrepancy, is the major factor in weight concern.

These studies all have a common theme: in comparing men and women, the conclusion is that body image is important for women and not so for men. However, more recent studies suggest that these findings are not conclusive. The following studies reviewed also examine sex differences in body image, but support the conclusion that body image affects men as well as women.
Mintz and Betz (1986) examined sex differences in body image correlates. The Body Cathexis scale (Jourard & Secord, 1955) was used to measure body satisfaction. A general trend was found for women to perceive themselves as overweight, and to subsequently desire to lose weight. In contrast, men who were dissatisfied tended to perceive themselves as underweight, and subsequently desired to gain weight. For both sexes, body dissatisfaction was related to lower self-esteem and greater depression proneness.

Betz, Mintz, and Speakmon (1994), in a continuation of the previous study, examined gender differences in accuracy of self-reported weight. Women were found to underreport their weight significantly more than men. It was also found that normal weight women perceived themselves as overweight, while normal weight men perceived themselves as underweight. This supports the findings of the previous study.

McCaulky, Mintz, and Glenn (1988) examined the relationship between body image, self-esteem, and depression proneness. One hundred and three females and 73 males took the Body Cathexis Scale, the Depression-Proneness Inventory (Abramson & Metalski, 1983), the Janis-Field Feelings of Inadequacy Scale (Robinson & Shaver, 1973), and a background questionnaire. Overall, women reported more body dissatisfaction than men. However, different patterns emerged, with underweight men expressing the most dissatisfaction among men, and with normal and overweight women expressing the most dissatisfaction among women. Women on average desired to weigh 8.5 lbs less, while men on average desired to weigh 3 lbs more. Both sexes showed distortions, with women tending to perceive themselves as larger, and men perceiving
themselves as smaller, although the effect for women was larger. Higher levels of body satisfaction were related to higher levels of social self-esteem in both genders. Also, higher levels of body satisfaction were associated with lower levels of depression-proneness in men only.

Silberstein, Striegel-Moore, Timko, and Rodin (1988) assessed the behavioral and psychological implications of body dissatisfaction in men and women. Forty-five female and 47 male participants took three measures of body dissatisfaction: Body Size Drawings (Fallon & Rozin, 1985), the Body Esteem Scale (Franzoi & Shields, 1984) and a measure of current and ideal weight. Participants also took the Rosenberg Self-Esteem scale (Rosenberg, 1965), the Eating Attitudes Test (Garner, Olmsted, Bohr, & Garfinkel, 1982), and Reasons for Exercise Inventory, which was developed for this study. Men and women showed no differences in degree of body dissatisfaction across the three measures. Men tended to want to be heavier, while almost no women wished to be heavier, instead wanting to be thinner. Overall body esteem was correlated with self-esteem for both men and women. Also, women tended to exercise for weight control more than men, and exercising for weight control was associated with disordered eating.

Drewnoski and Yee (1987) examined body weight satisfaction in men and women. They found that 85% of the women wanted to lose weight. In comparison, 40% of men wanted to lose weight, and another 45% of men wanted to gain weight. Thus, the same number of men and women expressed dissatisfaction with their weight, but men and women differed in the nature of their dissatisfaction. Furthermore, men reported using exercise more often to control weight, while women focused more on dieting.
Muth and Cash (1997) examined the effect of gender on body image attitudes. A total of 136 men and 141 women were given four measures: the Multidimensional Body-Self Relations Questionnaire (Brown, Cash, & Mikulka, 1990), the Body Image Ideals Questionnaire (Cash & Szymanski, 1995), the Situational Inventory of Body-Image Dysphoria (Cash, 1994), and the Body Image-Affect Inventory (Szymanski & Cash, 1995). Women tended to have more negative body image evaluation, greater investment in their appearance, and more frequent cross-situational body image dysphoria. Body weight and body image evaluation/affect were linearly related for women, but curvilinearly related for men. For both men and women, evaluation and investment predicted body-image affect.

Vartanian, Giant, and Passino (2001) investigated mass media, interpersonal feedback, and gender as predictors of satisfaction with body thinness and muscul arity. One hundred sixty seven females and 111 males took the Body Esteem Scale (Mendelson, White, & Mendelson, 1997), Dual Dimension Figure Rating Questionnaire (Stunkard, Sorenson, & Schulsinger, 1983), Sociocultural Factors Questionnaire (Levine, Smolak, & Hayden, 1994), and the Bem Sex Role Inventory (Bem, 1974). Women were found to have lower overall scores on average than men on the measure of overall body satisfaction. Men were split between those wanting to be thinner and wanting to be heavier, whereas most women wished to be thinner. Both genders were concerned with improving muscul arity, but men were significantly less satisfied with their current muscul arity than women. Men and women were affected by media, teasing, and criticism in similar ways. High instrumentality was related to higher overall body satisfaction in
both genders, and also to greater dissatisfaction with current muscul arity. However, in the context of the other variables studied in a regression analysis, instrumentality did not make substantial contributions towards explaining variation in body satisfaction.

Overall, the research on sex differences in body image tends to suggest that there are definite differences between men and women. For women, the presence of negative body image has been a consistent finding. A strong tendency to desire weight loss tends to be found, and a thin ideal is the desired outcome. For men, negative body image findings have been mixed. When findings are found for men, men also desire to gain weight, in sharp contrast to women. Since these findings suggest gender differences related to body image, support is offered for the general purpose of this study: to focus more closely on examining body image in men, as the construct differs between men and women.

Body Image Research on Men

Not all research on body image has compared differences between men and women. Rather, other studies have focused on examining male body image. These studies overall appear to suggest that comparing body image between men and women is troublesome, as the construct differs. Therefore, these studies have focused primarily on identifying factors specific and salient to body image in men.

Tucker (1982) investigated the relation between perceived physique and ideal physique. The Perceived Somatotype Scale was developed and used in this study to determine whether perceived somatotype influences scores on the Body Cathexis scale (Jourard & Secord, 1955). This scale involves seven pictures of physique, representing the range of somatotypes (ectomorphic/skinny on one end, mesomorphic/muscular in the
middle, and endomorphic/fat on the other end. In general, the more one’s perceived physique differed from his ideal, the more body dissatisfaction he reported. Mesomorphs (muscular, low body fat) were found to have the most body satisfaction. Another study by Tucker (1984) reported in the Journal of Clinical Psychology examined self and perceived somatotype in comparison to extraversion, neuroticism, and body dissatisfaction. Again, mesomorphs reported the best outcomes. Furthermore, discrepancies between ideal and self-perception again were associated with negative outcomes.

Petrie, Austin, Crowley, Helmcamp, Johnson, Lester, Rogers, Turner, and Walbrick (1996) paralleled earlier studies examining portrayals of women in fashion magazines in order to examine socio-cultural expectations of attractiveness for males. Pictures of males in Gentleman’s Quarterly and Esquire were examined over 32 years. Chest, shoulder, and waist measurements of pictures meeting specific criteria (shirtless or tight shirt, with model at less than a 45 degree angle to the camera) were taken. Chest to waist and shoulder to waist ratios were compared. There were no significant changes in these measurements over time.

Pope, Gruber, Choi, Olivardia, and Phillips (1997) identified muscle dysmorphia, a subtype of body dysmorphic disorder. Muscle dysmorphia involves a pathological preoccupation with one’s degree of muscularity. This disorder was originally referred to as reverse anorexia. It can lead to psychological distress, impairment in relationships and work, and is often comorbid with eating disorders, obsessive-compulsive disorder, and mood disorders.
Muscle dysmorphia tends to be related to whole body dissatisfaction, as opposed to other body dysmorphic disorders which focus on single body parts. This disorder is also closely related to increased exercise. The primary focus is on exercise with diet as a secondary focus, in contrast to eating disorders where the reverse is true. This disorder is more prevalent in men than women, and is particularly prevalent in bodybuilders.

Furnham and Calnan (1998) investigated eating disturbances, self-esteem, reasons for exercising, and body weight dissatisfaction among adolescent males. One hundred and forty three teenage males took the Eating Disorder Inventory (Garner, Olmstead, & Polivy, 1983), Reasons for Exercise measure (Silberstein, Striegel-Moore, Timko, & Rodin, 1988), and the Rosenberg Self Esteem scale. The sample was divided into three groups based on discrepancy between ideal and actual weight: those with a larger ideal, those with a thinner ideal, and those whose idea and actual weight matched. Results suggested males dissatisfied with their bodies were equally divided between those wishing to gain weight and those wishing to lose weight. No relationship was found between self-esteem and body weight dissatisfaction. Exercising for physical tone, attractiveness, health, fitness, and weight control were all positively related to disordered eating, but exercising for mood and enjoyment were found unrelated.

Cohene and Pope (2001) examined body image research on boys. In general, boys have been found to have less body image concern than girls. Still, many boys report body dissatisfaction. This dissatisfaction is associated with lowered self-esteem and increased distress. Furthermore, they also noted that boys tend to be concerned with getting bigger, while girls want to be smaller.
Pope, Olivardia, Gruber, and Borowiecki (1999) examined the evolving ideals of male body image as seen through action toys. Measurements were taken of several popular action toys that have been manufactured for the past 30 years. Height, waist, chest, and biceps were measured for these toys, and then the measurements were extrapolated to a height of 70 inches. These measurements revealed definite changes in the figures of action toys over time. Specifically, action figures have become much more muscular over time. While older toys resemble the average male, many contemporary figures exceed the musculature of even the largest human bodybuilders.

Leit, Pope, and Gray (2001) examined cultural expectations of musculature in men through the evolution of playgirl centerfolds. The body mass index and fat-free mass index for 115 male centerfolds in Playgirl from 1973 to 1997 was calculated. A significant correlation between these measures and the date was found, indicating an increase in musculature over time.

Stephen Edwards and Catherine Launder (1999) developed the Swansea Muscularity Attitudes Questionnaire in order to examine musculature concerns in males. Factor analysis of items revealed two underlying constructs: one reflecting the desire to be muscular and goal-oriented behaviors, and the second perceived positive attributes of musculature. A final 20-item scale was developed and given to 303 normal male subjects. The two-factor structure was confirmed. Cronbach's alpha was high for both scales (.94 for Drive for Muscularity scale, and .91 for Perceived Attributes of Muscularity scale.

Lynch (1999) assessed figure preferences in men. In contrast to the figures commonly used in research developed by Stunkard, Sorenson, and Schulsinger (1983), the figures
used in this study illustrated differing degrees of muscularity rather than of bodyfat. One hundred and two men and 101 women participated, divided among university students and adults. Men filled out demographic data and chose from the nine figure drawings (ranging from not muscular to very muscular) the one representing their current figure, ideal figure, the figure other men would consider ideal, and the figure most women would find attractive. Women indicated their age and picked the male figure most attractive to them, most attractive to other women, and the figure males would consider ideal.

Satisfaction was first measured by comparing current and ideal images. A difference of 5 or greater was considered dissatisfaction, and less than 5 satisfaction. 83.72% of the college men wished to be larger, while 44.07% of the adult men wished to be larger. More adult men, 30.51%, were satisfied than college men, 16.28%. 25.42% of the adult men wished to be smaller, while no college men did. College men had higher mean difference scores than adult men. College women chose an ideal male figure smaller than what college men thought, while adult men and women showed no significant differences. A Likert scale rating of satisfaction suggested that both adult and college men are relatively satisfied with their bodies, with no significant differences between the two. The authors suggest that, although men may have notable differences between their ideals and self-perception, this does not necessarily imply dissatisfaction. Men may realize that their ideals are unattainable and be happy with their body. Compared to previous research, it is suggested that young men desire increased muscle mass while older men desire less body fat (Rozin & Fallon, 1985).
Pope, Gruber, Mangweth, Bureau, deCol, Jouvent, and Hudson (2000) examined body image perceptions among men in three countries. The Somatomorphic Matrix, a computerized test designed by the authors (Gruber, A., Pope, H., Borowiecki, J., & Cohane, G., 2001), was used to examine male body image. This program presents a matrix of 10x10 pictures, ranging on axes of muscularity and fatness. Subjects pick the image that best represents their own body, their ideal body, the average man, and the body most desired by the opposite sex. Height, weight, and body fat were measured for college-aged men in Austria (n=54), France (n=65), and the United States (n=81). They then responded to the matrix questions. The actual measurements of the men were compared to that of the images they chose. In all three countries, men chose an ideal body with a mean of 28lb more muscle than themselves, and males estimated that women preferred a male about 30lbs more muscular than themselves. By contrast, women in a pilot study preferred an average male figure. Thus, there appears to be a strong misconception among men in what they believe women consider an attractive male body.

Leit, Gray, and Pope (2002) examined the effect of media representations of male bodies on men’s attitudes towards their own appearance. This study used methodology similar to previous studies on women (Klodner, 1997). Eighty-two male participants were shown slides from popular magazines. The control condition saw either no human images or images not focused on the body. The experimental condition, 10 neutral slides were included with 20 slides featuring images of ideal male bodies. These figures were selected from ratings by 10 college-aged men on whether the images were muscular, attractive, and sexually provocative. Images with highest scores for being muscular and
attractive were used, and images with a mean score of 5 or higher for sexually
provocative were eliminated from consideration. These participants then took the
Somatomorphic Matrix. The experimental group displayed a significantly greater
discrepancy between their current and ideal fat free mass index (a measure of
muscularity), suggesting higher body dissatisfaction in the experimental group. Of note,
no significant differences were found for body fat. This suggests that media images can
affect men’s views of their bodies.

Overall, several themes emerge from these findings. Body image appears to be an
important issue for men. Muscularity tends to be a salient aspect of body image in men
that can be distinguished from body image issues for women. Many men desire to be
more muscular, and also believe that women find more muscular men attractive. Also, a
general increase in societal messages favoring a more muscular and idealized male figure
may be related to these changes.

**Gender Roles and Body Image**

Several extant studies suggest that gender roles perception can influence body image
expression. Kimlicka, Cross, and Tarnai (1983) compared androgynous, feminine,
masculine, and undifferentiated women on self-esteem, body satisfaction, and sexual
satisfaction. Unmarried female undergraduates (n=204) completed the Bem Sex Role
Inventory; the Body Image Scale (Berscheid, Walster, & Bohnstedt, 1973), assessing
satisfaction with 25 body characteristics; a self-esteem measure; and a sexual satisfaction
Scale. A one-way ANOVA was done on the four groups on body image, self-esteem, and
sexual satisfaction. Also, a multiple regression analysis was done with masculinity scores
and femininity scores as the independent variables. Results suggested that masculinity and androgyny were associated with higher self-esteem, body satisfaction, and sexual satisfaction. On the other hand, femininity and an undifferentiated role orientation were associated with lower self-esteem, body satisfaction, and sexual satisfaction.

Jackson, Sullivan, and Rostker (1988) examined gender, gender role, and body image. Females and males (n=106 for females and n=60 for males) took the Body-Self Relations Questionnaire (Winstead & Cash, 1984), the short form of the Bem Sex Role Inventory (Bem, 1979), and short form of the Texas Social Behavior Inventory (Helmreich & Stapp, 1974). A 2x4 MANOVA with gender (female or male) and the four gender role classifications (androgynous, feminine, masculine, and undifferentiated) was performed on the subscales of the BSRQ. Results suggested that feminine females displayed less favorable evaluation of their physical appearance than masculine or androgynous women. Masculine and androgynous females displayed the most favorable body image rating in all domains. Feminine males were found to have the poorest body image in the physical fitness domain. Self-esteem did not moderate any of these relationships.

Davis, Dionne, and Lazarus (1996) investigated the moderating influence of neuroticism on gender-role orientation and body image. For this study, 52 women and 53 men took the Body Esteem Scale (Franzoi & Shields, 1984), the Neuroticism scale of the Eysenck Personality Questionnaire-Revised (Eysenck & Eysenck, 1991), the Bem Sex Role Inventory, and reported their weight and height (to compute BMI). Correlations were computed for the measures, and regression for both genders was run for the BES.
subscales. It was found in the female sample that masculinity was positively associated with the subscales of the BES. There was also and observed neuroticism x masculinity interaction when the physical attractiveness scale of the BES was examined. This interaction suggested that the positive correlation between masculinity and physical attractiveness (meaning women scoring higher in masculinity considered themselves more physically attractive) occurred only when neuroticism scores were low. The opposite effect was found for men. Femininity was correlated with all of the BES subscales. Furthermore, a similar neuroticism x femininity interaction was observed, where femininity was only positively related to attractiveness when neuroticism was low. Overall, these results suggest that gender role identification can be related to body image, but that other personality traits (such as neuroticism) may moderate this relationship.

Ludwig and Brownell (1999) investigated the relationship between gender roles and social affiliation in lesbian and bisexual women. In this study 188 participants were recruited primarily through email and took the survey via email or through a website. Participants were given demographic information, the Kinsey scale (Kinsey, Pomeroy, & Martin, 1953) to measure sexual orientation, weight information, and a questionnaire designed by the experimenter. This questionnaire asked participants to rate their appearance on a masculinity/femininity scale, and answer questions assessing their social network (gender, sexual orientation, interests). Women who rated their appearance as feminine were found to have lower body satisfaction relative to masculine and androgynous women.
Forbes, Adam-Curtis, Rade, and Jaberg (2001) compared body dissatisfaction in men and women based on gender typing and self-esteem. In two samples (65 male and 141 females for sample one, and 464 total with no reports of gender in the second sample) the Personal Attributes Questionnaire (Spence & Helmreich, 1978) was administered. Subjects also responded to drawings of nine female and nine male figures, developed by Stunkard, Sorenson, and Schlusinger (1983) on a range of thinness to fatness. Respondents chose the figure best representing their own body, the body they would like to have, the body type the same sex would like to have, and the body type the opposite sex would like best. Participants would also answer questions about the opposite gender’s drawings: what body type would the opposite gender like to have, and the body type you find most attractive.

Results suggest that women classified as feminine or undifferentiated were more dissatisfied with their bodies than masculine or androgynous women (measured by discrepancy between self perception and ideal perception). Women also had thin ideals and overestimated men’s preference for thin women. Similarly, men classified as feminine or undifferentiated were more dissatisfied with their bodies than masculine or androgynous men. Overall, this suggests perceptions of masculinity (evidenced by groups high in masculinity) serves as a protective factor against body dissatisfaction. It is also noted that masculinity and self-esteem are correlated, suggesting that these gender type differences in body satisfaction could simply be due to self-esteem differences.

Lennon, Rudd, Sloan, and Kim (1999) examined the relationship between gender roles, self-esteem, and body image. It was predicted that body image would be positively
related to self-esteem, gender roles would be positively related to self-esteem, and that
gender roles would mediate the relationship between body image and self-esteem. Fifty-
three men and 534 women took the Attitudes Towards Women Scale (Spence,
Helmreich, & Stapp, 1973), Rosenberg Self-Esteem Inventory (Rosenberg, 1965), and
the Multi-dimensional Body Self Relations Questionnaire (Brown, Cash, & Mikulka,
1990). Body image and self-esteem were found to be predictors of self-esteem.
Appearance orientation (importance placed on appearance) was related to self-esteem in
women with traditional attitudes towards gender roles, but not in women with non-
traditional attitudes towards women. However, fitness orientation (importance placed on
fitness) was positively related to self-esteem in both gender roles groups.

Overall, these studies suggest that gender roles constructs can be moderating factors
in body image expression. These findings conflict at times, such as the findings of
The former suggests femininity is positively correlated with positive body image for
males, while the latter suggests masculinity is positively correlated with positive body
image for males. Furthermore, these studies use differing measures that may be at times
measuring different constructs. The studies are also more oriented towards women, as
reflected in the participants in the studies: most have many more women than men, or
have no men at all. Overall, however, evidence is given that gender roles and body image
are related, and that gender roles may therefore be relevant in understanding male body
image.
Summary

Taken as a whole, these various studies suggest common themes. First, body image issues are salient issues for men. Second, body images issues are qualitatively different for men and women. Third, socio-cultural pressures may be increasing the salience of body image consciousness for men. Fourth, muscularity is an aspect of body image important to men. And fifth, gender roles constructs are linked to body image. Therefore, it follows that gender roles constructs may be related to muscularity, one component of body image important for men.
CHAPTER 3

METHOD

Participants

The participants were 141 male undergraduate students enrolled in an introductory psychology class at The Ohio State University. Participation partially fulfilled a course requirement, but it was be voluntary in the sense that alternate options were available instead of research participation. Recruitment consisted of posting the experiment on the Research Experience Program web site, where students had the option of selecting from a variety of experiments.

Demographics indicated that 77.3% of the participants identified themselves as Caucasian, 8.5% as African-American, 7.8% as Asian American, 5.0% as Hispanic American, and 1.4% as other. Among this group 76.6% were in their first year, 12.1% in their second year, 7.8% in their third year, 2.1% in their fourth year, and 1.4% in their fifth year or greater. Participants were primarily in the 18-22 age range (96.5%). A small minority was 17 or younger (1.4%) or 23-30 years old (2.1%). These demographics are fairly representative of the OSU undergraduate male population.
Instruments

There were three measures administered: the Swansea Muscularity Attitudes Questionnaire, the Bem Sex-Role Inventory, and the Perceived Somatotype Scale.

The Swansea Muscularity Attitudes Questionnaire. The SMAQ (Edwards & Launder, 1999) measures muscularity concerns in males. It consists of 20 items divided into two 10-item subscales: one reflecting the desire to be muscular and goal-oriented behaviors (Drive for Muscularity Scale, or DFM), and the second perceived positive attributes of muscularity (Perceived Attributes of Muscularity scale, or PAM). Items are measured on a 7-point Likert scale. Total score are calculated by transforming the 1 to 7 scale from −3 to 3, and then adding the items on each scale. An example of an item on the DFM scale is “I often engage in bodybuilding.” An example of an item on the PAM scale is “Men with small muscles are less masculine than men with larger muscles.”

Edwards & Launder (1999) reported Cronbach’s alpha as .94 for Drive for Muscularity scale, and .91 for Perceived Attributes of Muscularity scale. Currently, there are no other published studies providing further reliability evidence, such as test-retest reliability, or validity evidence for this measure. Two items were added to this scale in order to assess a participant’s current self-perception of their muscularity. These two items were “I consider myself muscular,” and the negatively worded “I do not consider myself muscular.” These items were not contiguous in the packets handed out.

Bem Sex-Role Inventory. The original BSRI (Bem, 1974) consists of three 20-item subscales that measure sex role characteristics of men and women. These three scales are: instrumentality; expressiveness; and social desirability. The instrumentality scale
measures traits such as self-reliance and assertiveness, while the expressiveness scale measures traits such as caring and sensitivity. Each scale consists of a set of adjectives describing the respective constructs. Responses are obtained on a 7-point Likert scale where participants rank their identification with that adjective. Responses range from 1 (never true) to 7 (always true). Examples of items on the instrumentality scale include the adjectives “independent” and “dominant;” on the expressiveness scale, the adjectives “gentle” and “affectionate.” Scores are calculated by adding items for each scale together. The third scale is a social desirability scale. Since this scale does not have theoretical relevance in the context of this study, it was not used.

It is important to note that the instrumentality and expressiveness scales were originally titled masculinity and femininity. More current theory and empirical findings suggest, however, that these titles are erroneous (Auster & Ohm, 2000; Hoffman & Borders, 2001). Some believe that the titles instrumentality and expressiveness would be more appropriate (Spence, 1999). Due to the substantive literature suggesting the limitations of these scales in regards to measuring “masculinity” and “femininity,” these scales will be referred to as instrumentality and expressiveness throughout the rest of this paper. However, given that norms have shown the instrumentality scale scores to be higher on average for men than women and the expressiveness scale scores higher on average for women than men (Bem, 1977), there does seem to at least be credence to the idea that the traits measured in these scales have differing social desirability for the sexes. This is why these scales, despite not being measures of masculinity and femininity, were used in this study.
For the purposes of this study, a 30 item short version of the BSRI was used (Bem, 1981). This form reduces the number of items on each scale to 10. Bem computed Cronbach's alpha separately for males and females: for males, .85 on instrumentality and .85 on expressiveness; for females, .86 of instrumentality and .84 on expressiveness. Bem also computed product-moment correlations to assess test-retest reliability. Results revealed scores of .91 in femininity and .76 for instrumentality with males, and .85 for expressiveness and .91 for instrumentality in females. Validity data for the BSRI has also been found. Based on her original theoretical formulations, Bem has found support for differences in behavioral flexibility (Bem & Lenney, 1976), gender schematicity (Frable & Bem, 1985), and differentiation between the sexes (Bem, 1974). Other researchers have found that the BSRI scales correlate with other extant measures, such as the Minnesota Multiphasic Personality Inventory M/f scale (Volentine, 1981). However, other researchers have challenged the validity of the BSRI on the grounds of theory (Spence, 1984), results of factor analyses (Pedhauzer & Tetenbaum, 1979), scoring (Spence & Helmreich, 1978), and item selection (Ballard-Reisch & Elton, 1992).

Evidence exists both supporting and criticizing the short form of the BSRI in particular. Bem originally devised this short form in response to criticisms of her scale, including poor item-total correlations for the scales and issues raised by factor analytic studies (Lenney, 1991). Subsequently, this form has been considered more psychometrically sound than the original version (Lippa, 1985). It should be noted, however, that other researchers have found limitations of the short form, including bias towards the expressiveness scale (McPherson & Spetrino, 1983) and loss of
discriminatory power in classifying by sex type (Gruber & Powers, 1982). Furthermore, Bem no longer uses the short form in her own research (Fрабле & Bem, 1985). Therefore, there seems to be no straightforward rationale for using either form.

**Perceived Somatotype Scale.** The PSS (Tucker, 1982) consists of a lineup of seven male figures. These figures represent the range of somatotypes: ectomorph (skinny), mesomorph (muscular), and endomorph (overweight). The scale asks a participant to respond to two questions. Participants are asked to choose the figure that best represents their own, and the figure that best represents their ideal. From these two questions, a dichotomous variable representing discrepancy can be created. Since these scales vary both level of bodyfat and muscular development, they produce categorical variables. Tucker reported product-moment reliability coefficients of .96 for the self-perceived somatotype and of .94 for the ideal-perceived somatotype. No other reliability or validity data has been published for these scales.

**Procedure**

Participants signed up for the study through the Research Experience Program website. Through this signup process, two groups of approximately 70 participants each were used to collect data. At the beginning of each data collection session the nature of the study was described to the participants. Confidentiality was insured by requiring no identifying information from the participants. Answer packets were numbered instead. After giving participants the opportunity to ask questions, the measures were handed out and participants could begin. Participants completed the measures in one of two orders: the Swansea Musculature Attitudes Questionnaire, the Bem Sex-Role Inventory, and then
the Perceived Somatotype Scale; or the Bem Sex-Role Inventory, the Swansea Muscularity Attitudes Questionnaire, and then the Perceived Somatotype Scale. Participants ended by filling out a demographics questionnaire that asked for information regarding race, age, sexual orientation, year in school, weight, height, and sports participation. All measures were paper-pencil based. After completing the measures, the participants were handed a debriefing form describing the purpose of the research and given credit for their participation.
CHAPTER 4

RESULTS

Descriptive Statistics and Preliminary Analyses

The first priority in beginning analyses was to insure the quality of the data collected. Statistical analysis thus began with the calculation of descriptive statistics such as the means, standard deviations, and Cronbach's alpha for all of the scales. This allowed for examination of the scales, to make sure there was variability in responses, to insure that there were no major abnormalities with the data, and to assess whether the test items performed consistently in this sample. The mean, standard deviations, and Cronbach's alpha for the Bem scales and the SMAQ scales can be found in Table 4.1. The means and standard deviations for the two SMAQ scales, Perceived Attributes of Muscularity (PAM) and Drive for Muscularity (DFM), deviate markedly from those of the only previous norms published (Edwards & Launder, 1999). For example, previously published means for the PAM and DFM scales were 3.58 and 8.21, respectively. When the current values are scaled appropriately (the means used in this study must be multiplied by 10 to equal the original items), the current means were 12.8 for the PAM and 3.4 for the DFM. However, a high Cronbach's alpha of .92 for the PAM and .92 for
the DFM, which also matches the previously published Cronbach’s alphas, suggests that the scales are reliable. The Bem scales also yielded Cronbach’s alphas consistent with previous norms: .83 for the instrumentality scale, and .89 for the expressiveness scale.

Since there is only one extant published study that utilizes the SMAQ (Edwards & Launder, 1999), reliability analysis was also included for the items on the Swansea scales as a further test of its psychometric properties. Only one published study has supported the reliability of this instrument, making further analysis necessary since the scales of this measure are the primary scales used in this study. Item-total correlations for all items on both subscales were high. The mean item-total correlation for the DFM scale was .70, while the mean item-total correlation for the PAM scale was .72, suggesting that the items are appropriate.

Since two different forms of the test packet were used in this study, an analysis of variance was used to check for order effects. Results of the one-way ANOVA for order effect can be found in Table 4.2. Effects on the PAM, DFM, Instrumentality, and Expressiveness scales were examined. This analysis revealed no statistically significant differences, suggesting no mean differences in the scales due to order effects. Therefore, order was not included as a variable in any subsequent analyses.

Main Hypotheses

The main hypotheses of the study were first examined by utilizing a one-way ANOVA. The purpose of the analyses was to determine whether participants who tended to score high in instrumentality tended to have higher scores on the PAM and DFM. To facilitate analysis, the Bem scales were classified according to a median-split, a
procedure Bem proposed in response to criticisms of her original scoring procedure (Bem, 1977). The median-split procedure forms four distinct groups, indicating whether the participant is above or below the median on the two scales. The four resultant groups are (with high indicating above the median and low below the median): high in instrumentality and low in expressiveness; high in expressiveness and low in instrumentality; low in both scales (undifferentiated); and high in both scales. Using this procedure, participants were assigned to one of the four categories. The 141 participants were divided as such: 38 high in instrumentality and low in expressiveness; 29 high in expressiveness and low in instrumentality; 33 low in both; 41 high in both. After assigning participants to these categories, the one-way ANOVA was performed. The PAM and DFM scales were used as dependent factors, with the median-split categories as the independent variable.

Table 4.3 shows the results of the one-way ANOVA for the main hypotheses. The F-values for both the PAM and DFM scales were not significant: $F(3, 140) = 2.09, p > .05$; $F(3, 140) = .83, p > .05$. This suggests no differences between the four groups resulting from the median-split procedure.

The main hypotheses of the study were next examined utilizing correlational analysis. Tests of the relationship between the Bem scales and the Swansea scales can be found in Table 4.4, which shows a correlation matrix for the four scales of interest. The main hypothesis of this study, that the instrumentality scale would be positively related to both increased positive attributes of muscularity and increased behaviors related to muscularity, was not supported. Lack of evidence was indicated by insignificant $r$-values
(r=.04, r=.01). On the other hand, one relationship not hypothesized was found: the expressiveness scale was positively correlated with the PAM scale, indicated by \( r =.21 \), significant at the .05 level.

**Analysis of Perceived Somatotype Scales**

After these primary analyses were completed, post-hoc exploratory analyses were initiated. The goal of the analyses was to further determine any other factors that might be related to perceptions of and behaviors related to muscularity. The first analyses centered on the Perceived Somatotype Scales. Two post hoc hypotheses were made: that participants with muscular self-somatotypes (in other words, participants considering themselves muscular) would display significantly higher valuing of muscularity and behaviors related to muscularity; secondly, that participants with muscular somatotypes as their ideal would display significantly higher valuing of muscularity and behaviors related to muscularity.

To begin these analyses, the distributions of these two subscales (self and ideal somatotype) were examined. The distributions of the self and ideal somatotype scales can be seen in Table 4.5. The self-somatotype drawings are relatively balanced in representation, meaning the number of participants selecting each drawing was not noticeably skewed towards any one drawing. Alternatively, the ideal somatotype drawings are over-represented by drawing four.

Since the self-somatotype scale had a reasonable number of participants in each group, a one-way ANOVA was used to test the first hypothesis. One adjustment was made for the analyses: participants selecting somatotype six were added to those selecting
somatotype five, since only three participants chose somatotype six. This was done to help prevent violations of normality in the ANOVA. No participants chose somatotype seven, which was thus not in the analyses. Two one-way ANOVAs were run with these five groups, with self-somatotype as the independent factor and with PAM and DFM scores as the dependent variables.

Table 4.6 shows the results of the one-way ANOVAs. The main effect for the PAM was statistically significant, $F(4,140)=4.17$, $p<.05$. The main effect for the DFM was not statistically significant, $F(4,140)=1.78$, $p>.05$. A Scheffe test on the PAM showed mean differences between somatotype four and somatotypes one and two significant at the .05 level. Specifically, participants selecting somatotype four displayed significantly higher mean levels on PAM than participants selecting somatotypes one and two.

Since the ideal somatotype scale was clearly not normal, a Kruskal-Wallis one-way analysis of variance by ranks was utilized (Siegal & Castellan, 1988) in testing the second hypothesis. This is a non-parametric equivalent to the one-way ANOVA. This technique tests the null hypothesis that $k$ samples come from the same population or identical populations with the same median. All of the observations in the samples are ranked from one to $N$, $N$ being the total number of independent observations in the samples. The sum of these ranks is found for each sample, and an average rank is then computed. If the average ranks are not equal, this suggests that at least two of the groups came from populations with different medians. This test is well approximated by a chi-square distribution. The Kruskal-Wallis one-way analysis of variance by ranks test was used with the ideal somatotypes as the samples on both the PAM and DFM scores.
Table 4.7 shows the results of the Kruskal-Wallis one-way analysis of variance by ranks for the PAM and DFM scales. The chi-square test statistics for both analyses suggested significant differences between groups. Specifically, $x^2(5, n=141) = 23.85$, $p<.05$, for the PAM; and $x^2(5, n=141) = 15.34$, $p<.05$, for the DFM. Examining the mean ranks of the somatotypes, it appears that group 4 has the highest mean rank (80.10) for the PAM, while group 6 and group 4 have the highest mean ranks for the DFM (111 and 77.13). Since group 6 has only one participant, it is not certain whether this mean rank is due to one outlier or whether this was an accurate rank.

**Muscular Self Perception**

A second analysis involved a variable created for this study. Two questions were added to the Swansea assessing a participant’s self-perception of their own muscularity. Both were on the same −3 to 3 scale as the other items. The two items were correlated ($r=.66$) and normally distributed. A new variable was created by subtracting the reverse scored item from the other item, thus creating a new variable ranging from −6 to 6. This variable, muscular self-perception, displays a relatively normal distribution. Hypotheses were made that participants considering themselves muscular would score higher on the PAM and DFM scales. Correlational analysis was used to test this hypothesis.

Table 4.8 shows the results of the correlational analysis between the muscular self-perception items and the Swansea scales. The items displayed small positive correlations with both scales. For the PAM, $r=.25$, significant at the .01 level; for the DFM, $r=.19$, significant at the .05 level.
Demographics

Demographic data were also used in analyses. These variables were selected in order to assess other contextual factors that might be influencing values and behaviors related to musculature. Table 4.9 shows the distributions of the demographic variables. One-way ANOVA was used to examine the relation of the demographic variables to the PAM and DFM scores. Sports participation in college, height, weight, height x weight interactions, and age were the demographic variables analyzed. Weight, although not even in categories, was included in the ANOVA to test the height and weight interaction. The weight groups, being uneven, were condensed in order to better fit the assumptions of ANOVA. Group one (n=3) was added to group two (n=91) for a total of n=94 and group 5 (n=1) was added to group 4 (n=6) for a total of n=7, yielding three total weight groupings instead of five. To further test weight as well race, both of which were uneven in categories, Kruskal-Wallis one-way analysis of variance by ranks was used.

Table 4.10 shows the results of one-way ANOVA examining sports participation in college, height, weight, height x weight interactions, and age with PAM and DFM scores as dependent variables. The main effect for weight was statistically significant, $F(2,140)=3.22$, $p<.05$. A post hoc Scheffe test found no significant differences between the three analyzed groups. All F values for these analyses were not significant.

Table 4.11 and Table 4.12 show the results of the Kruskal-Wallis one-way analysis of variance by ranks for the PAM and DFM scales with weight and race as the grouping variable. For both analyses with weight as the grouping variable, chi square statistics were significant: for the PAM, $x^2(4, n=141) = 9.87$, $p<.05$; for the DFM, $x^2(5, n=141) =$
10.57, p<.05. The chi-square test statistics for both race analyses suggested no significant differences between groups. Specifically, $x^2(4, n=141) = .59, p>.05$, for the PAM; and $x^2(4, n=141) = 3.66, p>.05$, for the DFM.
<table>
<thead>
<tr>
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<th>Scale</th>
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<th>SD</th>
<th>Alpha</th>
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<td>Swansea</td>
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<td>0.34</td>
<td>1.12</td>
<td>0.92</td>
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<td>Perceived Attributes of Muscularity</td>
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<td>0.92</td>
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<td>Instrumentality</td>
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<td>0.78</td>
<td>0.83</td>
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<tr>
<td></td>
<td>Expressiveness</td>
<td>5.19</td>
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<td>0.89</td>
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</tbody>
</table>

Note: N=141

Table 4.1: Means, Standard Deviations, and Cronbach's Alpha for the PAM, DFM, instrumentality, and Expressiveness Scales
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<th>p</th>
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<tr>
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<td>0.09</td>
<td>0.76</td>
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<tr>
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<td>Expressiveness</td>
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<td>0.69</td>
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</table>

Table 4.2: Analysis of Variance for Order Effects on the PAM, DFM, Instrumentality, and Expressiveness Scales
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<th>Source</th>
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<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFM</td>
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<td>0.48</td>
</tr>
<tr>
<td>PAM</td>
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<td>0.1</td>
</tr>
</tbody>
</table>

Table 4.3: Analysis of Variance of the DFM and PAM Scales with Bem Median Split Groupings as Independent Variables
<table>
<thead>
<tr>
<th></th>
<th>Instrumentality</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>.24**</td>
<td>.01</td>
<td>.04</td>
</tr>
<tr>
<td>2</td>
<td>Expressiveness</td>
<td></td>
<td>.03</td>
<td>.21*</td>
</tr>
<tr>
<td>3</td>
<td>Drive for Muscularity</td>
<td></td>
<td></td>
<td>.66**</td>
</tr>
<tr>
<td>4</td>
<td>Perceived Attributes of Muscularity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: With an N of 141, * indicates significance at the .05 level, and ** indicates significance at the .01 level

Table 4.4: Overall Correlations Among the Instrumentality, Expressiveness, DFM, and PAM Scales
<table>
<thead>
<tr>
<th>Scale</th>
<th>Somatotype Picture #</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Somatotype Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>141</td>
</tr>
<tr>
<td>Ideal Somatotype Scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>105</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>141</td>
</tr>
</tbody>
</table>

Table 4.5: Distributions of the Self-Somatotype and Ideal Somatotype Scales
<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFM</td>
<td>3</td>
<td>1.78</td>
<td>0.14</td>
</tr>
<tr>
<td>PAM</td>
<td>3</td>
<td>4.17</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4.6: Analysis of Variance of the DFM and PAM Scales with Self Somatotypes as Independent Variables
<table>
<thead>
<tr>
<th>Scale</th>
<th>Somatotype Picture #</th>
<th>N</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3.5</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>6</td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>25</td>
<td>50.74</td>
</tr>
<tr>
<td>4</td>
<td>105</td>
<td>105</td>
<td>80.1</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>1</td>
<td>53</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>DFM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
<td>7.75</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>6</td>
<td>56.5</td>
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<td>3</td>
<td>25</td>
<td>25</td>
<td>56.32</td>
</tr>
<tr>
<td>4</td>
<td>105</td>
<td>105</td>
<td>77.13</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>19.25</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>1</td>
<td>111</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 4.7: Kruskal-Wallis One-way Analysis of Variance by Ranks for the PAM and DFM scales with Ideal Somatotype as a Grouping Factor
<table>
<thead>
<tr>
<th></th>
<th>Muscular Self Perception</th>
<th>Drive for Muscularity</th>
<th>Perceived Attributes of Muscularity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.19*</td>
<td>0.25**</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** With an N of 141, * indicates significance at the .05 level, and ** indicates significance at the .01 level

Table 4.8: Overall Correlations Among Muscular Self Perception and the DFM and PAM Scales
<table>
<thead>
<tr>
<th>Demographic Category</th>
<th>Variable</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>Caucasian</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>African American</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Asian-American</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td>Age</td>
<td>&gt;18</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>18-22</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>23-30</td>
<td>3</td>
</tr>
<tr>
<td>Year</td>
<td>1</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>5+</td>
<td>2</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td>Heterosexual</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>Homosexual</td>
<td>1</td>
</tr>
<tr>
<td>Weight</td>
<td>&gt;125</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>125-175</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>176-225</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>226-275</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>&lt;276</td>
<td>1</td>
</tr>
<tr>
<td>Height</td>
<td>5'3-5'7</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>5'8-6'0</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>6'1+</td>
<td>40</td>
</tr>
<tr>
<td>Sports-High School</td>
<td>yes</td>
<td>120</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>21</td>
</tr>
<tr>
<td>Sports-College</td>
<td>yes</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>no</td>
<td>106</td>
</tr>
</tbody>
</table>

Table 4.9: Distributions of Race, Age, Year, Sexual Orientation, Weight, Height, Sports Participation in High School, and Sports Participation in College
<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Sports Part.</td>
<td>PAM</td>
<td>1</td>
<td>0.01</td>
<td>0.95</td>
</tr>
<tr>
<td></td>
<td>DFM</td>
<td>1</td>
<td>0.46</td>
<td>0.5</td>
</tr>
<tr>
<td>Height</td>
<td>PAM</td>
<td>3</td>
<td>1.03</td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td>DFM</td>
<td>3</td>
<td>0.59</td>
<td>0.56</td>
</tr>
<tr>
<td>Weight</td>
<td>PAM</td>
<td>2</td>
<td>2.22</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td>DFM</td>
<td>2</td>
<td>2.28</td>
<td>0.08</td>
</tr>
<tr>
<td>Height x Weight</td>
<td>PAM</td>
<td>2</td>
<td>1.39</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>DFM</td>
<td>2</td>
<td>1.76</td>
<td>0.18</td>
</tr>
<tr>
<td>Age</td>
<td>PAM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DFM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.10: Analysis of Variance of the DFM and PAM Scales with College Sports Participation, Height, Weight, and Height x Weight as Independent Variables
<table>
<thead>
<tr>
<th>Scale</th>
<th>Weight Grouping</th>
<th>N</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAM</td>
<td>1</td>
<td>3</td>
<td>28.5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>91</td>
<td>67.2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>40</td>
<td>81.86</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>6</td>
<td>87.17</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1</td>
<td>12.5</td>
</tr>
<tr>
<td>DFM</td>
<td>1</td>
<td>3</td>
<td>46.33</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>91</td>
<td>65.93</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>40</td>
<td>86.47</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>6</td>
<td>67.25</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>1</td>
<td>9.5</td>
</tr>
</tbody>
</table>

Table 4.11: Kruskal-Wallis One-way Analysis of Variance by Ranks for the PAM and DFM scales with Weight Categories as a Grouping Factor
<table>
<thead>
<tr>
<th>Scale</th>
<th>Race Categories</th>
<th>N</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAM</td>
<td>Caucasian</td>
<td>106</td>
<td>65.09</td>
</tr>
<tr>
<td></td>
<td>African-American</td>
<td>12</td>
<td>65.67</td>
</tr>
<tr>
<td></td>
<td>Asian-American</td>
<td>11</td>
<td>72.59</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>7</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>Native American</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>2</td>
<td>64</td>
</tr>
<tr>
<td>DFM</td>
<td>Caucasian</td>
<td>106</td>
<td>70.92</td>
</tr>
<tr>
<td></td>
<td>African-American</td>
<td>12</td>
<td>54.58</td>
</tr>
<tr>
<td></td>
<td>Asian-American</td>
<td>11</td>
<td>81.27</td>
</tr>
<tr>
<td></td>
<td>Hispanic</td>
<td>7</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Native American</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>2</td>
<td>63</td>
</tr>
</tbody>
</table>

Table 4.12: Kruskal-Wallis One-way Analysis of Variance by Ranks for the PAM and DFM with Race Categories as a Grouping Factor
CHAPTER 5

DISCUSSION

Despite a growing literature, the nature of male body image is still not well understood. Unlike the literature on female body image, it is still unclear to what degree body image affects males and, more particularly, what components of body image are most salient. Accordingly, the main purpose of this study was to add to the existing knowledge on the nature of body image in men. Muscularity and gender roles served as the particular foci for this study. Muscularity was compared to instrumentality and expressiveness, and also to somatotype self and ideal perception, muscular self-perception, and several demographic variables. It was hypothesized that value of muscularity and behaviors related to muscularity would be related to instrumentality. Other analyses were exploratory, given the relatively uncharted nature of this topic.

The main hypothesis of this study, that value of muscularity and behaviors related to muscularity would be related to instrumentality, was not supported. One relationship found that was not hypothesized was a slight tendency for individuals with higher expressiveness scores to have higher perceived attributes of muscularity. However, this relationship was weak. Overall, it seems that the constructs of instrumentality and
expressiveness are not strong correlates of muscular values and behaviors. In other words, it appears that muscular values and behaviors are basically the same across individuals with differing levels of instrumentality and expressiveness. It does not appear therefore that stereotypical gender role perception, as represented by two main constructs in this area, is an important moderating factor for the expression of muscularity values and behaviors in an average college male sample.

The exploratory analyses yielded several results. Participants' self-perception of their own somatotype was a factor in valuing of muscularity. That is, participants who visually perceived themselves as being muscular valued muscularity more on average. A similar finding was that there was a slight relationship between participants endorsing statements that they were muscular and their scores on the DFM and PAM. In other words, people who verbally reported being muscular displayed a slight tendency towards valuing muscularity more and engaging in muscularity related behaviors more. These findings suggest that males who are muscular, at least in this sample and potentially in other college samples, tend to value and seek muscularity more than average.

Another result was that selection of ideal somatotype was related to the DFM and PAM scores. From looking at the mean ranks of the scores, it appears that participants with a muscular ideal tended to value muscularity and engage in muscularity related behaviors more often than the other participants selecting less muscular somatotypes. This suggests that males who perceive muscular somatotypes as an ideal value muscularity and engage in muscularity related behaviors more than average.
The only demographic variable with a significant relationship to muscular values and behaviors was weight. All other variables were non-significant. However, it is difficult to interpret the finding that there significant differences in weight groups. Weight may be related to other factors, such as muscularity (i.e. certain weight ranges may have higher than average muscular development). Due to the very broad weight categories used, this factor could not be further analyzed. If continuous data were gathered for this category and height, then body mass index (BMI) could be computed, another potential variable that may more accurately represent differences in muscular development.

As another note, the reliability of the SMAQ was further supported. Results of this study closely replicated those of the scale authors. However, it should also be noted that mean values and standard deviations differed markedly from their published results. This may be due to differing samples. Unfortunately, the original article by Edwards and Launders (1999) does not specify the demographics of their sample, making it difficult to ascertain why these differences may have occurred. The only information they give is related to the age of the sample administered the final version of the SMAQ: for these 303 male subjects, the mean age was 28.05 with a standard deviation of 6.93. This is a clear age difference from the current sample where 96.5% of the sample was in the 18-22 age range, indicating a lower mean and standard deviation. Therefore, the score differences may be age related. Other authors have noted that body image concerns may change with age (Lynch, 1999), giving some precedent for such a difference. Also, although not clearly indicated in the published article, the original validation sample for the SMAQ presumably came from Wales. Therefore, the differences in scores may be
due to cultural differences. Potentially, there could be differing attitudes towards seeking 
muscularity and valuing muscularity in Wales as compared to the United States. 
Although there is not a compelling theoretical reason for this difference, it is a possibility. 
Overall, given the limited data, making conclusions about norms or drawing 
interpretations from mean scores of this scale currently is inappropriate. If further data 
suggests that the SMAQ scores for this sample are unusual, then the results of this study 
may be statistical artifacts. Currently, this cannot be ascertained. 

Overall, these findings suggest that males perceiving themselves as muscular value 
muscularity and seek muscularity more than average. Furthermore, males who value 
muscular somatotypes are more likely to seek muscular development. Therefore, it 
appears that self-perception is an important indicator of whether one will value and seek 
muscularity. In other words, individuals who view themselves as muscular will more 
likely value and seek muscularity than individuals who do not consider themselves 
muscular. This may reflect a self-protecting mechanism, in the sense that males may have 
a tendency to see whatever they look like as ideal. 

There are several limitations of this study worthy of note. One issue surrounds the 
usefulness of two of the measures used: the Bem Sex Roles Inventory, and the Perceived 
Somatotype Scale. As was previously noted, there is a substantial literature critiquing the 
Bem, both in terms of its psychometric properties and theoretical formulation. The Bem 
ultimately seems to measure the constructs of instrumentality and expressiveness. 
Although these constructs appear to discriminate between men and women, it is not clear 
to what degree these constructs represent gender roles in general.
A second potential limitation concerns the Perceived Somatotype Scales. Although no major psychometric issues or general criticisms have been noted in the literature, it appears that these two scales are relatively crude measures. They confound two variables, masculinity and body fat, and do not offer a very wide range of body types. Some participants may prefer a more extreme, more muscular somatotype. For example, one participant in the study drew a more drastically muscular picture under the mesomorphic somatotype, indicating that it should be more muscular. Although one extreme case, this does illustrate limitations of this scale. This is problematic, since the muscular extremes may very well be the strongest predictors of other attitudes and outcomes. The potential for such findings, however, may be washed out with this scale.

Another limitation concerns the demographic data. General categories were used instead of specific estimates. These general categories were also arbitrary. Using such general categories makes analyses less accurate. Furthermore, because the height and weight ranges were both broad, potential BMI scores for any given individual could not be computed, as they could vary greatly (i.e. an individual could have a low or high BMI with the same height and weight categories). It is difficult to draw conclusions from this data due to its imprecision.

Limitations also go beyond this study to the general area of study. As has been noted, the literature on male body image is lacking. Furthermore, few measures have been specifically designed for males. Without psychometrically sound measures and without a solid theoretical framework, this area is still in its incipiency. It is still unknown what other factors relate to muscularity. For example, do valuing and seeking muscularity
predict muscle dysmorphia, or other less extreme but still distressing preoccupations? It may be that these factors, in and of themselves, are not powerful predictors. However, given other factors, such as low self-esteem and negative self-perception of one’s body, the potential for disturbance more plausible.

Implications from this study are reduced due to the limitations of this study. In this sample, participants’ self-perception was an indicator of valuing and seeking muscularity. This finding seems congruent with a previous finding in the body image literature: self-perception is a powerful predictor of body image expression (Tucker, 1982; Tucker, 1984).

In this study, focus was primarily given to two pairs of constructs, with exploration of several other potential variables. This restraint is not meant to belie the importance of this general issue. Understanding male body image is an endeavor increasingly relevant to modern society. This study, by participating and adding to this process, has a purpose. Hopefully other researchers will also see this purpose and add in their own way.

Several constructs seem potentially useful for further investigation in this regard. First of all, it is still not fully understood what the consequences of valuing and seeking muscularity are. It can be argued that individuals who value and seek muscularity are likely to eat healthy, exercise, and engage in other behaviors generally considered conducive to physical health. Conversely, previous literature suggests that a large discrepancy between one’s ideal body and one’s perceived body can be associated with negative consequences: lowered self-esteem, increased depression, increased incidence of eating disorders. Furthermore, individuals with muscle dysmorphia anecdotally appear to
evince this pattern: despite typically being extremely muscular in reality, these individuals do not perceive themselves as muscular, which drives their obsessive preoccupation. Thus, valuing and seeking muscularity may not be very valuable constructs in isolation. When considered in the context of discrepancy between one’s self-perception and their ideals, however, these constructs may be of more utility. Unfortunately, the Perceived Somatotype Scale does not appear to be an adequately precise instrument for measuring such discrepancy. This is one case that illustrates how a lack of adequate measures limits examination in this area, and therefore makes scale construction a top priority. Designing better measures of self-perception and ideal-perception suited for males a first step.

Focus on negative mental health outcomes, as well as more positive outcomes, are also an appropriate focus in this area. Given appropriate measures, muscular values and behaviors, muscular self-perception, and muscular ideal perception can be compared to factors such as exercise status, eating habits, depression, anxiety, self-esteem, and steroid use (and other potential substance abuse, such as the use of caffeine, painkillers, etc.). Thus, questions to ask are: when is valuing and seeking muscularity a healthy and reasonable pursuit? And when does valuing of muscularity become an unhealthy obsession related to psychological distress?
APPENDIX A: THE SWANSEA MUSCULARITY ATTITUDES QUESTIONNAIRE

Instructions: A number of statements are listed below. Choose a response from 1 to 7 to indicate your level of agreement with each statement.

<table>
<thead>
<tr>
<th>Definitely Not</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Definitely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. I feel that I am less attractive to partners when I have small muscles than when I have larger muscles.
2. I would like to be bigger in the future.
3. Men with small muscles are less masculine than men with larger muscles.
4. I aim to develop further my physique.
5. I would like to be more muscular in the future,
6. I feel bad about my body when I do not feel very big or muscular.
7. I would like to spend more time building up my muscles.
8. I think that large muscles are a sign of masculinity.
9. I often engage in bodybuilding.
10. I feel more masculine when I am more muscular.
11. I intend to become more muscular in the future.
12. Being larger, stronger-looking, and more muscular makes men more attractive to prospective partners.
13. I want to be more muscular than I am now.
14. I often engage in activities that will build up my muscles.
15. I feel less of a man when I have small muscles than when I have large muscles.
16. It is important to me that I should be more rather than less muscular.
17. Being muscular gives me confidence.
18. I feel that when I have small muscles I do not look as good as when I have large muscles.
19. I would prefer to be more rather than less muscular.
20. I feel more of a mature man when I have large muscles.
*21. I consider myself muscular.
*22. I do not consider myself muscular.
(*= items added to the Swansea for the purposes of this study)
APPENDIX B: THE BEM SEX ROLE INVENTORY
Instructions: A number of personality characteristics are listed below. Choose a response from 1 to 7 to indicate how true the characteristic is of you.

<table>
<thead>
<tr>
<th>Never True</th>
<th>Usually Not True</th>
<th>Sometimes True</th>
<th>Occasionally True</th>
<th>Often True</th>
<th>Usually True</th>
<th>Always True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. Defend my own beliefs  
2. Affectionate  
3. Conscientious  
4. Independent  
5. Sympathetic  
6. Moody  
7. Assertive  
8. Sensitive to the needs of others  
9. Reliable  
10. Strong personality  
11. Understanding  
12. Jealous  
13. Forceful  
14. Compassionate  
15. Truthful  
16. Have leadership abilities  
17. Eager to soothe hurt feelings  
18. Secretive  
19. Willing to take risks  
20. Warm  
21. Adaptable  
22. Dominant  
23. Tender  
24. Conceited  
25. Willing to take a stand  
26. Love children  
27. Tactful  
28. Aggressive  
29. Gentle  
30. Conventional
APPENDIX C: THE PERCEIVED SOMATOTYPE SCALE #1

Instructions: Please indicate which figure out of the seven shown here best represents your own body build. Please circle the one figure that you choose.
APPENDIX D: THE PERCEIVED SOMATOTYPE SCALE #2

Instructions: Please indicate which figure out of the seven shown here best represents the body build you would most like to have, if you could have any of these seven figures. Circle the one figure of your choice.
APPENDIX E: DEMOGRAPHICS QUESTIONNAIRE

Please answer the following questions about yourself.

1. Please identify your Race/Ethnicity
   d. Hispanic-American, Latino/Latina   e. Native American   f. Other ________

2. What is your age?
   a. younger than 18   b. 18 to 22   c. 23 to 30   d. 30 or older

3. What year in college is this for you?
   a. First year   b. Second year   c. Third year   d. Fourth year   e. Fifth year or later

4. How would you describe your sexual orientation?
   a. heterosexual   b. homosexual   c. bisexual

5. What is your weight?
   a. 125 lbs or less   b. 125-175 lbs   c. 176-225 lbs   d. 225-275 lbs
   e. 276 lbs or more

6. What is your height?
   a. 5’2 or less   b. 5’3 to 5’7   c. 5’8 to 6’   d. 6’1 or taller

7. Did you participate in any sports in high school?  A. Yes    B. No

   If so, which sport(s) did you participate in? ________________________________

8. Do you currently participate in any college related sports?  A. Yes    B. No

   If so, which sport(s) did you participate in? ________________________________
LIST OF REFERENCES


