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AN EXAMINATION OF BODY DISSATISFACTION AND MEDIA EXPOSURE

A Thesis
Presented to
The Faculty of the Department of Psychology
Western Kentucky University
Bowling Green, Kentucky

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts

By

Richard H. Kirchmeyer

December 2009

AN EXAMINATION OF BODY DISSATISFACTION AND MEDIA EXPOSURE

Date Recommended 11/16/09

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AN EXAMINATION OF BODY DISSATISFACTION AND MEDIA EXPOSURE

Richard H. Kirchmeyer December 2009 52 Pages

Directed by: Frederick Grieve, Pitt Derryberry, and Andrew Mienaltowski

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The goal of the current study was to examine the relationship between muscle magazine consumption and body dissatisfaction. The study also examined the relationship between muscle magazine consumption and the amount of disparity between ideal and real body shape. Participants (N = 108) were recruited via study board, and also on a volunteer basis, from a mid-Western university with a population of 20,674 students. The first hypothesis stated that men with greater exposure to muscle magazines would indicate that their actual body shape falls further away from their ideal body shape, in terms of both muscularity and fat level, than men who read fewer magazines that focus on muscle building. The second hypothesis stated that men with greater exposure to muscle magazines would indicate higher levels of body dissatisfaction than men who read fewer magazines focused on muscle building. To evaluate the first hypothesis, a linear regression analysis was conducted to determine whether magazine consumption would predict the distance between real and ideal body shape, in terms of both fat and muscle content. Results did not support the first hypothesis and are not consistent with prior research that showed higher levels of muscle and fitness magazine consumption correlating positively with a greater drive for thinness and a greater drive for muscularity. Results did not support the second hypothesis: greater exposure to muscle magazines did not lead to greater levels of body dissatisfaction. Regression analysis found that there was

no predictive relationship between muscle magazine consumption and body dissatisfaction or muscle magazine consumption and greater distance between ideal and real body shapes. Additional t-test analysis found that men who read muscle magazines actually indicated significantly lower levels of dissatisfaction with their bodies than men who did not read muscle magazines; however, that result is restricted to collegiate athletes only.

Results from this study are important in that they indicate, in men, there are other factors involved in determining how individuals end up with increased levels of body dissatisfaction. Prior findings also concluded that men's concerns with body shape thrive as a combination of multiple constructs involving social, personal, and mass media factors. Although magazine literature has some bearing on body image concern, particularly with women, it is unclear as to whether magazine consumption contributes to its effect on men.

One limitation of this study is that participants reported on the degree to which they were dissatisfied with their bodies. Some individuals may not have acknowledged their level of dissatisfaction with their own bodies. Information based upon self-reporting measures may have been inaccurate due to under or over reporting in surveys. Another limitation of this study, particularly when using the results as a comparison tool toward previous studies, is that the measures used to determine levels of body dissatisfaction differ. Researchers abroad have used different measures to arrive at what would be considered similar conclusions regarding body dissatisfaction. There are multiple measures that can be used to determine a person's level of satisfaction and drive for muscularity. Some measures are better than others at capturing variable characteristics.

Another important limitation is that muscle magazines only represent one form of media consumption. A study that incorporated other forms of media may be more fruitful in its findings. Therefore, results should be interpreted with caution. However, with ever-expanding information technology capabilities, society is increasingly bombarded with information more so than ever before. This study provides additional insight into the question of whether or not more is better. It also identifies a gender difference in the predicting power of magazine consumption and body dissatisfaction.

Introduction

Research on the relationships between body attitudes, body image, and media consumption has primarily focused on women. With contemporary social values bearing a strong relational component, concerns with body image and body attitudes were considered problematic to women only (Anderson, Cohn, & Holbrook, 2000; Crandall, 1994). In the past 15 years, research has steered away from the traditional gender-specific approach and incorporated designs that look at both genders and their perceptions of body image as functions of non-gender prejudiced factors such as perfectionism, narcissism, and negative perception (Baird & Grieve, 2006; Davis & Scott-Robertson, 2000; Grieve, 2007; Olivardia, 2001; Pope, Phillips, Olivardia, 2000).

One of the means by which social ideals are communicated to society is through the use of media such as television, radio, and magazines. It has been established that the social cognitive process of modeling (Bandura, 1994) is a strong underlying determinant in behaviors such as dieting, exercising, and purging and for factors such as drive for thinness, bulimia, and body dissatisfaction (Harrison, 2000). The modeling process can be facilitated through the use of various media types, which incorporate inflated societal ideals through the use of high status individuals such as compensated athletes, doctors, actors, and models that either possess or promote unrealistic body types and shapes. Findings also suggest that exposure to thinness-depicting and promoting media, specifically through television and magazines, strongly predict eating disorders and thinness endorsement in women (Harrison & Cantor, 1997; Richins, 1991). Other research has indicated that exposure to male models in advertisements decreased men's overall body satisfaction (Baird & Grieve, 2006; Lorenzen, Grieve, & Thomas 2004).

The present study will examine the relationship between men's exposure to magazines that focus on muscle building and level of satisfaction with body shape, as well as the size and the discrepancy between men's ideal and real body types.

Body Dissatisfaction and the Distance Between Ideal and Real Body Type

Satisfaction with one's body depends upon how strongly a person perceives various aspects of anatomy and physiology with respect to performance, functionality, and size. A study conducted by Harmatz, Gronendyke, and Thomas (1985) examined the problems exhibited by underweight men. Results of this study indicated that underweight men show higher levels of negative self-perception than normal-weighted men. Another study showed that men who perceive themselves as being weak, feeble, uncoordinated, fat, and lacking muscularity usually show higher levels of body dissatisfaction, whereas individuals who perceive themselves as being athletic, strong, and agile typically report lower levels of body dissatisfaction (Pope & Gruber, 1997). Others may develop problems that manifest as a result of having distorted self-perceptions about their body shapes and sizes, such as those found in Anorexia Nervosa and Body Dysmorphic Disorder.

Historically, women have reported higher levels of body dissatisfaction than men (Anderson et al., 2000; Connor-Greene, 1988; Crandall, 1994). Earlier research demonstrated that men and women differ on concerns with body shape and size in that each gender attaches different meanings to their bodies (Rodin, Silberstein, & Striegel-Moore, 1984; Vartanian, Giant, & Passino, 2001). Rodin and colleagues (1984) elaborated on these findings, indicating that women have traditionally used their

appearances to gain attention and to increase attractiveness, whereas men have traditionally used their bodies for functional purposes and as tools.

More recent research has replicated earlier findings which demonstrate that Western society body idealizations vary by gender. Women desire to have thin and fit physiques and men desire to have lean and muscular physiques (Brownell, 1991; Ridgeway & Tylka, 2005). Thus, concerns with body shape and size remain akin to the purpose or function in which the body will be used. The implications of these findings also suggest that, when identifying levels of body dissatisfaction in men and women, different measures need to be used. As suggested earlier, men are more affected by functionality (big versus small arms and tall versus short), and women report increased dissatisfaction as the result of attractiveness and appearance (fat versus thin). Consistent with this, Hausenblas and Fallon (2002) found that women with high body mass indices (BMI) reported greater levels of body dissatisfaction than did men. Although men are becoming more socially aware of body image, there still remains a significant difference between what women and men consider to be the ideal body type. Another recent study extrapolated this finding across gender and media representation, showing that magazines oriented toward women showed a higher incidence of weight loss articles and advertisements than did magazines oriented toward men, which contained more articles and advertisements related to weight gain (Grieve & Bonneau-Kaya, 2007). Concerns about body shape and size are no longer considered to be problematic to just women. In fact, both genders can endure physical and psychological hardships as a result of inflated socio-cultural ideals.

Men's increased concerns with body type have narrowed the difference between men's and women's disparities in ideal versus real body types. Women have historically shown high levels of body dissatisfaction, particularly in terms of the desire to be thinner than their actual body weight (Anderson et al., 2000; Harrison, 2000; Harrison & Cantor, 1997). Aside from actually losing weight, harmful consequences for the idealization of thinness include eating disorders and other obsessive and compulsive behaviors, all of which result in diminished physical and mental health (Stice & Shaw, 1994; Striegel-Moore, Siberstein, & Rodin, 1986). Due to the pervasive and destructive symptoms experienced by individuals with these types of disorders, a majority of past research aimed to explicate causal factors of dieting and weight loss behaviors in women.

Depolarization of Concerns with Body Shape

In men, the importance of having a muscular frame has increased (Olivardia, Pope, Borowiecki, & Cohane, 2004; Pope, Olivardia, Boroweicki, & Cohane, 2001) and men are showing increased levels of dissatisfaction with their bodies (Vartanian et al., 2001), including a desire to increase body weight in muscle mass (Pope, Gruber, Mangweth, Bureau et al., 2000). In men, the increased concerns with body image have increased the average distance between men's real and ideal body type (Pope & Gruber, 1997; Olivardia, 2004). It is by no surprise that in the early to mid 1980s, movies, magazines, and other media influences started depicting abnormally large and muscular men throughout their content. Consequently, exploration into men's concerns with muscularity gained momentum in the early 1980's and has since influenced others to examine men's concerns with body image as well (Drewnowski & Yee, 1987; Grieve, 2007; Hatoum & Belle, 2004; Mishkind, Rodin, Silberstein, & Striegel-Moore, 1986;

Morrison, Morrison, & Hopkins, 2001; Olivardia, 2001; Pope, Gruber et al., 2000; Pope, Phillips et al., 2000). The results clearly indicate that men are showing an increased concern for body image and that these concerns focus on gaining muscle mass and losing fat (Hildebrandt, Langenbucher, & Schlundt, 2004; Huddy, Nieman, & Johnson, 1993). Pope et al. (2000) found that men idealize a body that is approximately 28 pounds more muscular than their own and that the extreme ideals reported by men have resulted from changing cultural ideals, further depicted via leaner and more muscular action figure toys (Pope, Olivardia, Gruber, & Borowiecki, 1999) and *Playgirl* centerfolds (Leit, Gray, & Pope, 2002). Body dissatisfaction has been identified as a key component in Muscle Dysmorphia (Grieve, 2007) and other anxiety-related behaviors such as perfectionism, excessive exercise, increased drive for muscularity, and eating disorders (Olivardia, 2001; Pope, Gruber et al., 2000; Pope, Phillips et al., 2000).

Evidence has shown that both women and men can have abnormal body concerns, but that the reason behind the concern varies as a function of gender. Men's concerns typically focus on muscularity and weight gain, while women's concerns focus on losing weight (Vartanian et al., 2001). Across the board, a significant percentage of both men and women report being unsatisfied with their body weight. Data collected in South Carolina at Clemson University found that only 6% of women and 16% of men were satisfied with their current weight (Connor-Greene, 1988). Furthermore, males who were dissatisfied with their body shape and size had a desire to gain weight, whereas women who were dissatisfied with their body had a desire to lose weight. Additional research demonstrated that 29% of normal-weighted women perceived themselves as overweight, whereas, among normal-weighted men, only an average of 10% considered themselves to

be overweight (McCreary, 2002). Furthermore, 43% of overweight men from the same sample perceived themselves as having a normal weight compared to an average of 12% of overweight women who reported themselves as normal. A male-oriented study conducted by Hatoum and Belle (2004) found that participants had considerable dissatisfaction with their bodies and, despite the fact that over 65% of the men were within the normal weight parameter for their reported height, almost 81% had a desire to change their weight. Their results also indicated that a majority of men who were either underweight or normal had a desire to gain weight. Davis, Elliott, Dionne, and Mitchell (1991) indicated that 80% of the men in their study were dissatisfied with their current weight. How is it that 80% of men from a random sample report being dissatisfied with their weight, whereas only 35% of them were actually outside of normal weight parameters? Given the gender differences in how body shape is perceived, the Vartanian study (2001) found that outside social influence, such as teasing and criticism, played a more powerful role in male body dissatisfaction than mass media consumption. Although there is a strong possibility that outside influences, such as those provided by media services, are shaping self-perception and are providing a culturally driven and somewhat socially distorted perception of certain body types and levels of physical fitness, gender still appears to impact level of body satisfaction.

Self-Discrepancy Theory

According to self discrepancy theory, there are three types of self: the actual self, the ideal self, and the ought self (Higgins, 1987). The actual self pertains to all attributes that individuals or significant others believe they actually possess. The ideal self embraces all of the qualities that one wishes to have. The ought self holds onto all of the

attributes that an individual feels he or she rightfully deserves by essence of sheer existence. Ideal and ought self entities create a platform on which an individual stands for comparison to the actual self. Anxiety can result from the discrepancy between the ought and ideal self and the actual self. The act of synchronizing the different types of self serves to alleviate anxiety and create a more balanced sense of self-perception. It is logical to assume that an individual either lowers socialized standards (ideal and ought self) or acts within the environment to produce a change in the actual self in order to establish this harmony. If an individual decides to become more like his or her ideal self, they will diet and exercise. Men who place a heavier emphasis on achieving a social standard that is more like their ideal body show higher levels of body dissatisfaction (Hausenblas & Fallon, 2002) as opposed to men who are not as concerned about social standards as a basis of comparison. This effect is strengthened when men accept mainstream society's ideal for their body image (Drenowski & Yee, 1987; Grieve, 2007; Groesz, Levine, & Murnen, 2001; Harrison & Cantor, 1997). The extrinsic factors of socio-cultural ideas play a role in helping to determine an individual's self-perception. These ideals emerge from various mainstream channels of media.

Given the increased incidence of male-directed media concerning weight-gain/loss and muscle building in the past 20 years (Pope et al., 2001), in conjunction with a shift of cultural norms to expect a more muscular and fit male body (Leit, Pope, & Gray, 2001), it makes sense to observe a relational increase in men's concerns with their bodies. Also, given that modern societies are advancing in nutritional and medicinal technologies, it seems reasonable to observe increases in the marketing and availability of resources to promote the effects of such products, including the use of more effective

muscle-building and weight gain products. Looking at media exposure will help to solidify changing cultural ideals and gender differences in perceptions of ideal body shapes and sizes and how these differences are characterized within the media.

Media Consumption

Traditionally, women have been influenced by societal pressures to conform to certain body shapes and sizes. This pressure to conform is related to popular media consumption of extreme body types such those as found in magazines and on television (Garner, Garfinkel, Schwartz, & Thompson, 1980; Harrison, 2000; Harrison & Cantor, 1997; Richins, 1991). Research suggests that media advertisements produce a strong standard for social comparison (Richins, 1991) and that this leads to increased levels of comparison and results in a decrease in body shape satisfaction (Grieve, 2007; Groesz et al., 2002; Harrison & Cantor, 1997). It has been established that the social cognitive process of modeling (Bandura, 1994) underlies behaviors such as dieting, exercising, and purging and excessive drives for thinness, bulimia, and body dissatisfaction (Harrison, 2000). A majority of the literature that focuses on body dissatisfaction argues that cultural ideals, whether realistic or not, are channeled into mainstream society through popular media types such as television, internet, and magazines (Harrison, 2000; Richins, 1991). Therefore, the use of media provides a convincing vessel through which the modeling process flourishes. Exposure to idealized thin bodies through various media such as television and magazines has been shown to have harmful psychological effects (Lorenzen et al., 2004; Turner, Hamilton, Jacobs, Angood, & Dwyer, 1997), such as body devaluation (Ogden & Mundray 1996; Stice, Schupak-Neuberg, Shaw, & Stein, 1994) and depression (Cash & Henry, 1995; Garber, 2000). Other findings suggest that

exposure to thinness-depicting and promoting media strongly predict eating disorders and thinness endorsement in women (Harrison & Cantor, 1997; Richins, 1991) and that women still experience greater dissatisfaction with their body shapes than men (Lokken, Ferraro, Kirchner, & Bowling, 2003).

Review of research literature from the 1980's indicated that the monogenic nature of body image concerns had depolarized to include men as well (Drenowski & Yee, 1987; Mishkind et al., 1986). Research conducted by Nemeroff, Stein, Diehl, and Smilack (1994) showed a significant increase in the number of body-concern articles related to physical fitness and weight loss in men's magazines. Multi-gendered body image concerns have become even more salient in the past decade (Morrison et al., 2001; Olivardia, 2001; Pope, Gruber et al., 2000; Pope, Phillips et al., 2000). In contemporary Western societies, increased concerns with body image have been shown to be due to an increase in the idealization of thin body types for women (Brownell, 1991; Hausenblas & Fallon, 2001) and muscular body types for men (Pope, Phillips et al., 2000; Wienke, 1998). This idealization has been shown to be most widely represented though mass media, which has been a topic of research due to its strong relationship with social attitudes concerning thinness and muscularity (Grieve, 2007; Groesz et al., 2001; Harrison & Cantor, 1997). If immediate and momentary exposure to male models in advertisements decreases men's overall body satisfaction (Baird & Grieve, 2006; Lorenzen et al., 2004), research should examine whether long-term and consistent exposure to similar advertisements show similar effects.

"Other" Industries

Studies that focus on men's exposure to sexually explicit material have also gained momentum in the past ten years. This is due, in part, to the unrealistic nature of the both the physical stature and activity of many pornographic depictions (Escoffier, 2003), and how these images create unrealistic cultural idealizations of masculinity and femininity (Leit et al., 2002; Morrison, Ellis, Morrison, Bearden, & Harriman, 2006). A recent Canadian study looked at the impact of self-exposure to pornography and how the exposure relates to body esteem and sexual esteem (Morrison et al., 2006). Results indicated that individuals who reported higher levels of pornographic exposure on the internet showed lower levels of sexual esteem, thus indicating a relationship between internet pornography usage and diminished self-perception of sexual performance (Morrison et al., 2006). Prior studies have also shown that the increased cultural expectations for muscularity in men have been reflected in increasingly more muscular men depicted in pornographic magazines (Leit et al., 2001).

Consumption

Studies that focus on men's concerns with muscularity and overall fitness, self-esteem, and exposure to male-oriented magazines have shown significant results in the past ten years. Higher levels of male-oriented magazine consumption have been associated with an increased desire to improve one's masculine features (Hatoum & Belle, 2004). Exposure to male models in magazines, which are typically depicted with unrealistic body shapes, resulted in an increase in body dissatisfaction (Baird & Grieve, 2006; Lorenzen et al., 2004). These findings are consistent with prior studies conducted with women showing that even brief exposure to thin female models resulted in

decreased self-esteem and body satisfaction, as well as increased guilt, stress, shame, insecurity, and depression (Stice & Shaw, 1994).

In an attempt to further associate body dissatisfaction and unrealistic depictions of muscularity and thinness in the media, Duggan and McCreary (2004) found that higher levels of muscle and fitness magazine consumption correlated positively with levels of body dissatisfaction in both homosexual and heterosexual men. Their results indicate a correlation between reading muscle and fitness magazines and higher levels of social physique anxiety, greater drive for thinness, and greater drive for muscularity. One exception to these results was that, in heterosexual men, social physique anxiety levels failed to reach a significant effect. Aside from illustrating that there are measurable differences between heterosexual and homosexual men when examining self-perception and the influences of certain media types, the study also demonstrated that there are extrinsic social factors that play a role in determining one's level of body satisfaction, including media consumption. This study has helped to clarify that men also suffer from the ramifications of distorted cultural idealizations and the resulting media influences that represent these idealizations. However, as reported by the authors, sample sizes were small, participants were self-selected, and the amount of ethnic diversity was not determined. The authors reported that data collection was completed through the use of the internet, further reducing the collection pool to those capable of using computers.

Limitations

Limitations have remained consistently evident throughout the majority of past literature that has focused on body satisfaction and media consumption. Because of research limitations, mainly relating to small sample size and lack of sample

heterogeneity, it is still unclear as to whether consistent and self-chosen exposure to muscle and fitness magazines, such as found with an avid reader, affects an individual's level of body satisfaction. Individual differences are more evident in small sample populations, making it difficult to extrapolate findings that suggest that magazine consumption would has a demonstrable relationship with actual perceptions of self.

Current Study

Research has shown that magazine advertisements are often used as a standard for social comparison (Martin & Kennedy, 1993) and that levels of body dissatisfaction in men are linked to unrealistic cultural expectations that are channeled through the use of various media types (Pope & Gruber, 1997). The Duggan and McCreary (2006) study established a link between magazine consumption and body satisfaction. They were also able to identify sexual preference as a mediating factor in media consumption and level of body satisfaction. The current study attempted to show that individuals who choose to view muscle magazines would have greater levels of body dissatisfaction and would further display a greater disparity between their real and ideal body shapes. The study also examined the possibility of gender differences that appear to exist when identifying media consumption and its predictive power for body dissatisfaction. Comparisons were made using prior research results conducted over the past 25 years. This study will also examine the relationship, if any, between body image discrepancy and body dissatisfaction.

Hypothesis 1 states that greater self-reported exposure to magazines focused on muscle building will be associated with a greater discrepancy between actual and ideal body shape, in terms of both muscularity and fat content.

Hypothesis 2 states that men with greater self-reported exposure to magazines focused on muscle building (Checklist & frequency scores) will display higher levels of body dissatisfaction (BAS scores).

Method

Participants

Participants in the current study were recruited from the graduate and undergraduate population and the football team at Western Kentucky University. They were awarded for their participation with course credit at the discretion of their instructors or coaches. A total of 114 men completed the study. 108 surveys were completed correctly and used in the study. Participants were categorized as being either a football player, fraternity member, or non-organization affiliated student. Ages of the participants ranged from 18 years to 34 years (M = 20.44, SD = 2.57). The sample was 63.0% Caucasian (N = 68), 30.6% African American (N = 33), 3.7% Hispanic (N = 4), 0.9% Pacific Islander (N = 1), 0.9% biracial (N = 1). One participant (0.9%) chose "other." Heights of the participants ranged from 67 in to 77 in (M = 72.43, SD =2.49) and weights ranged from 129 lbs to 320 lbs (M = 208.95, SD = 42.02). Participants' average Body Mass Index was 28.57 (SD = 4.98). Sexual preference was obtained by using the Kinsey Scale (Kinsey et al., 1948). The Kinsey scale describes a person's sexual preference. It uses a scale from 0, meaning exclusively heterosexual, to 6, meaning exclusively homosexual. Participants selected the number that most accurately corresponded to their sexual preference. All but one (99.1%) of the participants chose "exclusively heterosexual" as their sexual preference. Level of education within the sample was almost evenly dispersed, with freshmen accounting for 21.3% (N = 23), sophomores 27.8% (N = 30), juniors 25.9% (N = 28), seniors 22.2% (N = 24), and graduate students 2.8% (N = 3) of the total sample. The breakdown of participants and their education level is summarized in Table 1.

Table 1

Participant Descriptive Statistics for Education Level

Measure	Freshman	Sophomore	Junior	Senior	Graduate
Football Player (N = 59)	32.2%	28.8%	20.3%	19.9%	1.7%
Fraternity (N = 20)	5.0%	25.0%	40.0%	25%	5.0%
Non-Affil. Student (N = 29)	10.3%	27.6%	27.6%	31.0%	1%

Design of Study

The goal of the current study was to determine if higher levels of self-reported exposure to magazines that focus on building muscle predicted body dissatisfaction and increase distance between perception of ideal and real body shapes. The study uses a correlational design to look at exposure to magazines that focus on muscle building and how that exposure will determine how far away ideal shape is from actual body shape and level of dissatisfaction.

Measures

Biographical Information. Participants were asked to provide biographical information including their age, gender, height, weight, ethnicity, education level, and sexual preference (see Appendix A). Table 2 summarizes biographical information obtained.

Questionnaires. Scores on the following two questionnaires were calculated by summing the values of the respondent's choices for each respective measure (see Appendices B and D).

Exposure to Magazines that Focus on Muscle Building. A list composed of 12 magazines containing material that focused on muscle building was used (see Appendix B). The checklist includes popular magazines such as *Muscle & Fitness* as well as more obscure magazines such as *Natural Muscle Magazine*. Participants were asked to indicate if they had looked through any magazine on the checklist during the past six months (0 = *no*; 1 = *yes*) and then, if applicable, the number of times they had looked at each magazine during that six-month period. The first item measured simple exposure and the second item measured level of exposure. A composite score was created by having the participants pick from a list of magazines they had read in the past six months, and then indicate the frequency with which they had read each magazine. The reported frequencies were assigned values, based on a five-point Likert-type scale (1 = *rarely*; 5 = *nearly everyday*). These values were summed to give a total score indicating participants' level of reading muscle magazines. So, a participant who indicated reading three muscle magazines, one rarely (1), one often (4), and a third occasionally (3), would receive a total score of 8. For individuals reporting having read at least one magazine, scores can range from 1 to 60.

Level of Body Dissatisfaction. In order to measure overall satisfaction with the body (e.g. eyes, nose, buttocks, arms, and muscle tone), the Body Assessment Scale was used (BAS; Lorenzen et al., 2004; see Appendix C). The BAS consists of 25 items that assesses factors unique to body esteem: body strength, physical conditioning, body shape

and size, and perceived physical attractiveness. Participants rated the degree of satisfaction they hold with various aspects of their body (i.e., muscularity, weight, chest, facial appearance). Responses are rated on a five-point Likert-type scale ranging from 1 (*strongly negative*) to 5 (*strongly positive*), with lower scores representing greater body dissatisfaction. The summed scores for each individual participant can range from 25 to 125. The BAS has a Cronbach's alpha of .94 and exhibits dependable item total-correlations (ranging from $r = .51$ to $r = .80$) for all 25 items (Lorenzen et al., 2004). The current sample exhibited a similar alpha of .92.

Distance from Ideal Body Image. In order to measure perceptual body disturbance, the Bodybuilder Image Grid - Original was used (BIG-O; Hildebrandt et al., 2004; see Appendix D). The BIG-O was designed to measure perceptual disturbance in male body image and the perceived attractiveness of the male body in both men and women (Hildebrandt et al., 2004). Participants were instructed to make four choices: a) the figure that best represents their current body, b) the figure that represents their ideal body, c) the body type they feel is most attractive, and d) the body type that they feel is most attractive to the opposite sex. The scale can be used for men with any sexual preference and participants make their ratings independent of their sexual preference. The BIG-O grid has two scales that show muscle mass rows and body fat rows. The top left figure represents the column with the least body fat, and row with the least muscle mass. The columns show figures that increase in body fat from one, which is extremely low body fat, to 6, which is extremely high body fat. Muscle mass increases in figures from top to bottom from 1, which is extremely low muscle mass, to five, which is extremely high muscle mass. Perceptual distance is measured by a discrepancy index for body fat

(current fat – ideal fat = distance away) and muscle mass (ideal muscle – current muscle = distance away) by subtracting corresponding column and row scores. Hildebrandt et al. (2004) demonstrated good convergent and divergent validity and reported test-retest reliabilities of the BIG-O ranging from .84 to .94. In the current study, perceptual distances from ideal and real body shapes were calculated for both muscle and fat content. Each measure showed good internal consistency, with Cronbach's alpha values of .84 and .78 respectively.

Procedure

Following Human Subjects Review Board approval, participants were recruited from undergraduate and graduate courses, Department of Psychology Study Board, fraternities, and the Western Kentucky University football team. Participants were informed about the nature of the study and were asked for their verbal consent (see Appendix E). After verbal consent was obtained, participants were given a questionnaire packet that included a demographics section, magazine questionnaire, the BA, and the BIG-O. The estimated time of completion was eight minutes. In an attempt to locate individuals who may be more likely to read magazines that focus on muscle building and fitness, the Western Kentucky University Hilltoppers football team and student fraternity members were surveyed. It was then determined that additional coding was required in order to demarcate whether a participant was a football player, a fraternity member, or neither. This information was obtained verbally from participants as they handed in their completed surveys. For purposes of this study, students who indicated not being a football player or a fraternity member are labeled as "non-affiliated" or "regular." Following completion of the survey each participant was handed a debriefing document

explaining the nature of the experiment (see Appendix F). The debriefing statement also contained information about receiving assistance for concerns related to self-perception of body type.

Results

Table 1 summarizes the levels of education for each category of participant. Football players and non-affiliated students were more evenly dispersed than fraternity members. Fraternity members (N = 20) showed only a 5% freshman population. However, the surveys were completed over the course of the summer break, decreasing the chance of having freshman students on the campus, particularly those who would already be affiliated with a fraternity.

The descriptive statistics for all participants are summarized in Table 2. Football players exhibited the highest average heights, weights, and BMIs. They also reported higher average muscle mass, $F(2,107) = 11.72$, $p < .001$. Football players showed lower average fat levels and an increased desire to have less body fat and more muscle mass than their non-fraternity and fraternity counterparts; however, these differences did not reach statistical significance. There were significant differences in averages between groups in terms of height, $F(2,107) = 6.005$, $p < .003$, and weight, $F(2,107) = 9.000$, $p < .001$. These results were expected; however, Sheffe post hoc analysis indicated that these differences were specifically between fraternity members and football players ($p < .001$). Differences between regular students and football players and regular students and fraternity members did not reach significance.

Table 3 summarizes the difference between ideal and real body shapes in terms of both muscle and fat content. Football players indicated the least difference between their ideal and actual muscle mass. Fraternity members reported the lowest muscle mass levels and indicated a higher average tolerance for body fat than either football players or regular students. Non-affiliated students reported the highest desire to lose body fat.

A One-Way Analysis of Variance (ANOVA) was conducted to determine differences between groups. Results indicate a significant difference between groups only in terms of actual reported muscle mass, $F(2,107) = 11.724$, $p < .001$. Table 1 outlines means, standard deviations, and their significance for all three groups. Scheffe post hoc tests revealed that football players reported significantly higher muscle mass than both non-affiliated students ($p < .002$) and fraternity members ($p < .001$). There was no significant difference in means between regular students and fraternity members. In terms of reported ideal muscle mass, or, what individuals consider to be optimum in terms of muscularity, analysis indicated differences, $F(2,107) = 7.175$, $p < .001$. Scheffe post hoc revealed similar comparison outcomes: football players had a significantly higher perception of ideal muscularity than both regular students ($p = .024$) and fraternity members ($p = .006$). Table 2 lists the values obtained for actual and ideal body shapes.

There was also a significant difference between groups and overall reported BMI averages, $F(2,107) = 5.790$, $p < .004$. Sheffe post hoc revealed a significant difference in means between fraternity members and football players ($p < .004$). Students affiliated with fraternities showed the lowest BMIs. The difference in BMI between football players and regular students and the difference between fraternity members and regular students was not significant. Differences between the three groups failed to reach significance in terms of both reported ideal and real fat levels. All three groups reported similar disparities between their actual fat levels and what they considered to be their ideal fat level.

Table 2

Participant Descriptive Statistics (mean/standard deviation)

Measure	Football Players (N = 59)	Fraternity (N = 20)	Non-Affil. Student [h] (N = 29)
Height (in.)	73.1 / 2.6*	71.0 / 2.4*	72.1 / 1.9
Weight (lbs.)	221.2 / 38.8*	178.8 / 33.3*	204.8 / 43.5
BMI [a]	29.7 / 4.2*	25.6 / 4.9*	28.3 / 5.7
% Caucasian	40.7	95.0	86.2
Magazines Read [b]	3.5 / 7.0	1.7 / 5.2	1.8 / 3.8
BAS [c]	93.0 / 12.0*	84.3 / 10.7	84.9 / 14.8*
Actual - Muscle [d]	58.1 / 16.2*	40.0 / 16.5*	43.6 / 19.8*
Actual - Fat [e]	45.3 / 22.1	50.0 / 21.5	49.1 / 26.8
Ideal - Muscle [f]	67.6 / 14.9*	53.0 / 16.3*	56.7 / 22.1*
Ideal - Fat [g]	32.7 / 19.5	38.0 / 18.8	31.1 / 21.6

Note.
*. Difference is significant at the 0.05 level
[a] BMI = (weight in kilograms / [height in centimeters]^2)
[b] Magazine checklist
[c] Body Assessment Scale (BAS)
[d] Bodybuilder Image Grid (BIG-O)
[e] Bodybuilder Image Grid (BIG-O)
[f] Bodybuilder Image Grid (BIG-O)
[g] Bodybuilder Image Grid (BIG-O)
[h] Participants that were not football players or fraternity members

Table 3 lists the disparities between real and ideal in terms of both muscle and fat content. Differences between group means did not reach statistical significance.

Table 3

Descriptive Statistics for Disparities Between Ideal and Real (mean/standard deviation)

Measure	Football Player (N = 59)	Fraternity (N = 20)	Non-Affil. Student [b] (N = 29)
Muscle Disparity (lbs.)	9.5 / 15.5	13.0 / 17.5	13.1 / 23.5
Fat Disparity (lbs.)	-12.5 [a] / 21.9	-12.0 [a] / 19.9	-17.9 [a] / 26.4

Note.
[a] Negative number indicates the desire to decrease in weight
[b] Participants that were not football players or fraternity members

A One-Way ANOVA was conducted and indicated differences between groups in Body Assessment Scale totals, F (2,107) = 5.997, $p < .003$. Scheffe post hoc revealed that football players were more satisfied with their body shapes and physical fitness than were regular students ($p = .02$) or fraternity members ($p = .029$).

A One-Way ANOVA was also conducted to determine differences between football players, fraternity members, and regular students in magazine consumption. Mean differences between the three groups did not reach significance, F (2,107) = 1.122, $p < .330$. Football players reported the highest level of muscle magazine consumption; however, the difference was not significant.

Prior to hypothesis testing, a final analysis was conducted to examine the relationship between body perception discrepancy and body dissatisfaction. Results

indicated that there was no correlation between body dissatisfaction and distance away from ideal self, in terms of both fat and muscle content.

Analyses up to this point used One-Way ANOVA in order to compare differences in means among football players, fraternity members, or non-affiliated students. This was performed in order to verify that differences had emerged during analyses that were unique to these categories of students within the sample. They were worth examining in order to rule them out as confounds and to also understand how these sub-groups within the sample may have operated as functions of magazine consumption, muscle and fat content disparities, and body dissatisfaction. These groups were not used as covariates in analysis because there was a preexisting expectation that there would be distinct differences among groups in characteristics such as BMI, athletic activities, and group affiliation. If there had not been differences between these subgroups it would not have affected the nature of either hypothesis. This study focuses on the prediction power of body dissatisfaction as a result of magazine consumption. It hypothesizes that there is a linear relationship between the amount of magazine consumption and person's level of dissatisfaction with his body shape. The next set of analyses focuses on this relationship.

Hypothesis Testing

Additional analyses were performed in order to determine the outcomes of both hypotheses, which predicted that magazine consumption would relate ideal and real disparities in muscle and fat, and body dissatisfaction.

An independent samples *t*-test was performed on BAS scores grouping participants based on whether or not they had read muscle magazines. Results indicated a significant difference, $t(108) = 1.2$, $p = .019$, such that individuals who reported reading

muscle magazines showed more satisfaction with their bodies (M = 93.39, SD = 11.36) than those who reported not reading muscle magazines (M = 87.14, SD = 13.54).

An independent samples t-test was performed on the amount of disparity between ideal and real muscle mass grouping participants based on whether or not they had read muscle magazine. Results indicated no significant difference, $t(106) = 2.497$, $p = .824$. Individuals who reported reading muscle magazines showed similar disparities in reported ideal and real muscle mass (M = 11.67, SD = 22.10) as those who reported not reading muscle magazines (M = 10.83, SD = 16.8).

An independent samples t-test was performed on the amount of disparity between ideal and real fat levels grouping participants based on whether or not they had read muscle magazines and revealed no difference, $t(108) = 0.097$, $p = .214$. Individuals who reported reading muscle magazines showed similar disparities in reported ideal and real fat levels (M = -17.75, SD = 22.33) as those who reported not reading muscle magazines (M = -11.94, SD = 22.92).

To evaluate hypothesis one, a linear regression analysis was conducted to determine whether magazine consumption would predict the distance between ideal and real body shape, in terms of both fat and muscle content. The analysis revealed that magazine consumption was not a significant predictor of either muscle mass disparity between ideal and real levels ($\beta = .040$, $p = .679$, $R^2 = .002$) or fat content disparity between ideal and real levels ($\beta = -.069$, $p = .478$, $R^2 = .005$). The lack of linear relationship for muscle disparity ($r = .040$) or fat content ($r = -.069$) shows that higher levels of muscle magazine consumption are not associated with greater disparities between actual body shape and perceived ideal body shape.

To evaluate hypothesis two, a linear regression analysis was conducted to determine whether magazine consumption would predict body dissatisfaction. The analysis revealed that magazine consumption was not a significant predictor of body dissatisfaction ($\beta = .027$, $p = .784$, $R^2 = .001$).The lack of linear relationship for body dissatisfaction ($r = .027$) shows that higher levels of muscle magazine consumption does not indicate higher levels of body dissatisfaction.

Discussion

The current study examined the relationship between muscle magazine consumption and body dissatisfaction. It also examined the consumption of muscle magazines and how that relates to the distance between real self and ideal self in terms of muscle mass and fat level. It was expected that higher levels of muscle magazine consumption would relate to increased levels of dissatisfaction with body shape in terms of physique and fitness levels. It was also expected that higher levels of muscle magazine consumption would relate to a greater disparity between ideal and real shape in terms of both muscle and fat content.

Hypothesis One

The first hypothesis stated that men with greater exposure to muscle magazines would indicate that their actual body shape fell further away from their ideal body shape, in terms of both muscularity and fat level. Results did not support this hypothesis and are not consistent with an earlier finding (Duggan & McCreary, 2004) that showed higher levels of muscle and fitness magazine consumption correlating positively with a greater drive for thinness and a greater drive for muscularity. However, having a greater drive for thinness or muscularity does not necessarily indicate an increased distance between real and ideal self in terms of fat or muscle content. There was an expectation that results between these two studies would differ due to differences in operational definitions. Therefore, comparing results between these two studies must be performed with caution. In this study, linear regression found that there was no predictive relationship between muscle magazine consumption and distance between ideal and real body shape. Prior

studies involving women have shown that magazine consumption is a predictor for disparity between ideal and real body shape (Harrison & Cantor, 1997; Richins, 1991), further leading to self-destructive illnesses such as Bulimia and Anorexia, and that women typically are more susceptible to mass media influences than men (Vartanian et al., 2001). This means that either there is no predictive relationship (or a significantly smaller relationship) to be found in magazine consumption and distance between men's ideal and real body shapes, or that using magazine consumption alone (as opposed to using a combination of all media types, such as: television, internet, books) is not a sufficient predictor of disparity between men's ideal and real body shapes.

Hypothesis Two

The second hypothesis stated that men with increased exposure to muscle magazines would indicate higher levels of body dissatisfaction than men who read fewer magazines focused on muscle building. Results did not support this hypothesis and are not consistent with the Duggan and McCreary (2004) study that showed higher levels of muscle and fitness magazine consumption correlating positively with body dissatisfaction. Linear regression found that there was no predictive relationship between muscle magazine consumption and body dissatisfaction. These results further indicate incongruent findings with respect to increased muscle magazine consumption and its predictive power on body dissatisfaction. Furthermore, additional independent samples *t*-tests revealed that some men who read muscle magazines actually indicated lower levels of dissatisfaction with their bodies than men who did not read muscle magazines. This suggests that reading muscle magazines may be a byproduct of other mitigating factors, such as socio-cultural factors, general interests in nutrition and fitness, or an increased

drive for muscularity due to involvement in activities that require the use of information that is typically found in a muscle magazine. Muscle magazines are filled with literature that explain procedures and display advertisements that promise to give positive results in activities such as weight gain, muscle gain, and weightlifting performance. This type of magazine, given its utility-driven content, could be one that is used predominantly for information and learning and not so much used solely for entertainment. Therefore, its use does not predict a negative event such as body dissatisfaction inasmuch as it would predict an individual's drive to become physically fit or gain muscle mass.

These results also suggest, that although women's' studies have shown a consistent and long-term relationship between magazine consumption and body image concerns (Vartanian et al., 2001) the same is not true for men. Results indicate that greater magazine consumption does not predict greater levels of body dissatisfaction or enhance the disparity between perceived ideal and real body shape in men. The Vartanian study (2001) concluded that men's concerns with body image did seem to thrive more as a function of direct social interaction, such as criticism from others and teasing, than as a function of mass media consumption. Therefore, given the added complexity of men's concerns with body shape, the predictive power of a sole variable, such as media consumption levels, would decrease. It would appear that men's concerns with body image are not a direct function of magazine consumption as they have been shown to be with women. Although both genders do consume magazines for similar reasons, it could be hypothesized that women show tendencies to internalize content within magazines more strongly than men do. The consequence of this more intensified internalization could then be greater levels body dissatisfaction.

Limitations

One limitation of this study is that the sample is only representative of a male college population. Therefore, the results may only be generalized to college men. Prior investigation has already exemplified adolescent girls and college women are most affected by diminished body image and are most likely to engage in behaviors, such as dieting and exercise, which attempt to counteract those perceptions (Grogan, Williams, & Connor, 1996). Similarly, college-aged men are typically most affected by pressures to conform to certain culturally idealized body shapes and sizes (Lynch & Zellner, 1999; Olivardia, 2001). Thus, results from this study will generalize to the population most affected by the effects of body dissatisfaction.

A second limitation of this study is that participants self-reported on the degree to which they were dissatisfied with their bodies. Some individuals may not have acknowledged their level of dissatisfaction with their own bodies and/or others may have amplified their actual levels of body satisfaction. When relying on self-report measures to determine categorical qualities within samples, there is always a concern that the data is inaccurate due to underreporting or over reporting by participants (Schwarz, 1999).

A third limitation of this study is that only one form of media was examined, magazine consumption, as a correlate for body dissatisfaction. The possibility exists that examining multiple forms of media consumption, such as internet, radio, and television, as a whole, would yield more promising results with regard to body dissatisfaction as being a function of media consumption.

A fourth limitation of this study, particularly when using the results as a comparison tool toward previous studies, is that the measures used to determine levels of

body dissatisfaction are case dependent. Researchers abroad use different measures to arrive at what would be considered similar conclusions regarding body dissatisfaction. In this study, the BAS was used to determine level of dissatisfaction. There are other measures that can be used to determine a person's level of satisfaction and these other measures have varying degrees of internal consistency as well as varying degrees of similarity to the other measures. The Duggan and McCreary study (2004) used "drive for thinness" and "drive for muscularity," as defining characteristics, for a desire to either lose or gain weight or change body shape. This does not necessarily mean that those same characteristics can be directly applied to this study's definition of distance away from ideal body shape or even body image concern. Therefore, the differences between the two studies may stem from differences in the operational definition of body dissatisfaction and in its use within the specific research paradigm. Results would then be expected to vary in both magnitude and statistical relevance.

Conclusion

This research points out that there are other factors that affect body dissatisfaction and disparities between ideal and real body shapes. There appears be measurable differences, as a function of gender, in the predictive relationships between magazine consumption and body image concerns. Although prior research involving men has revealed a relationship between magazine media and body dissatisfaction, at this point, the evidence showing that higher levels of muscle magazine consumption as leading to increased dissatisfaction with body shape is not convincing. Factors that serve to decrease body satisfaction in men may have a deeper underlying construct, psychopathological or sociological in nature, which is not measurable within the context of this research design.

This research has reinforced prior studies showing that gender differences emerge when using magazine consumption to predict body dissatisfaction and that, in men, higher levels of muscle magazine consumption does not predict greater levels of body dissatisfaction.

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Appendix A

Demographics Survey

DEMOGRAPHICS SURVEY

PLEASE GIVE THE APPROPRIATE INFORMATION.

GENERAL INFORMATION

1. AGE: _____

2. GENDER: Male _____
   Female _____

3. HEIGHT: _____

4. WEIGHT: _____

5. ETHNICITY: ___ White/Non-Hispanic
   ___ African American
   ___ Hispanic
   ___ Asian
   ___ Middle Eastern/West Asian
   ___ Native American
   ___ Pacific Islander
   ___ Biracial/Multiracial
   ___ Other

6. COLLEGE EDUCATIONAL LEVEL: ___ Freshman
   ___ Sophomore
   ___ Junior
   ___ Senior
   ___ Graduate

7. PLEASE CIRCLE THE NUMBER THAT MOST ACCURATELY CORRESPONDS TO YOUR SEXUALITY:

   0 Exclusively heterosexual

   1 Predominantly heterosexual, only incidentally homosexual

   2 Predominantly heterosexual, but more than incidentally homosexual

   3 Equally heterosexual and homosexual

   4 Predominantly homosexual, but more than incidentally heterosexual

   5 Predominantly homosexual, only incidentally heterosexual

   6 Exclusively homosexual

Appendix B

Magazine Survey

MAGAZINE SURVEY

PLEASE ANSWER QUESTION #1 AND THEN READ THE INSTRUCTIONS THAT FOLLOW.

1. Have you read muscle building-related magazines within the past six months?

YES____ NO ____

If you answered "YES" to question #1, please complete QUESTION 2 below and then continue with the remainder of the survey. If you answered "NO" to question #1, SKIP QUESTION 2 and then continue with the remainder of the survey.

2. Place a check mark next to each of the following magazine titles that you have read in the past six months, and if so, indicate the amount of time that you spend reading each one by circling the appropriate choice below the magazine title:

____ ***FLEX***
rarely occasionally consistently often nearly everyday

____ ***Hardgainer***
rarely occasionally consistently often nearly everyday

____ ***Iron Man***
rarely occasionally consistently often nearly everyday

____ ***Milo***
rarely occasionally consistently often nearly everyday

____ ***Muscle & Fitness***
rarely occasionally consistently often nearly everyday

____ ***MuscleMag International***
rarely occasionally consistently often nearly everyday

____ ***Muscular Development***
rarely occasionally consistently often nearly everyday

____ ***Natural Muscle Magazine***
rarely occasionally consistently often nearly everyday

____ ***Planet Muscle***
rarely occasionally consistently often nearly everyday

____ ***Powerlifting USA***
rarely occasionally consistently often nearly everyday

____ ***Strongman***
rarely occasionally consistently often nearly everyday

____ ***Testosterone Magazine***
rarely occasionally consistently often nearly everyday

Appendix C

Distance from Ideal Body Image Survey

Using the following page, you will be making four choices, each indicated by a number that corresponds to a figure:

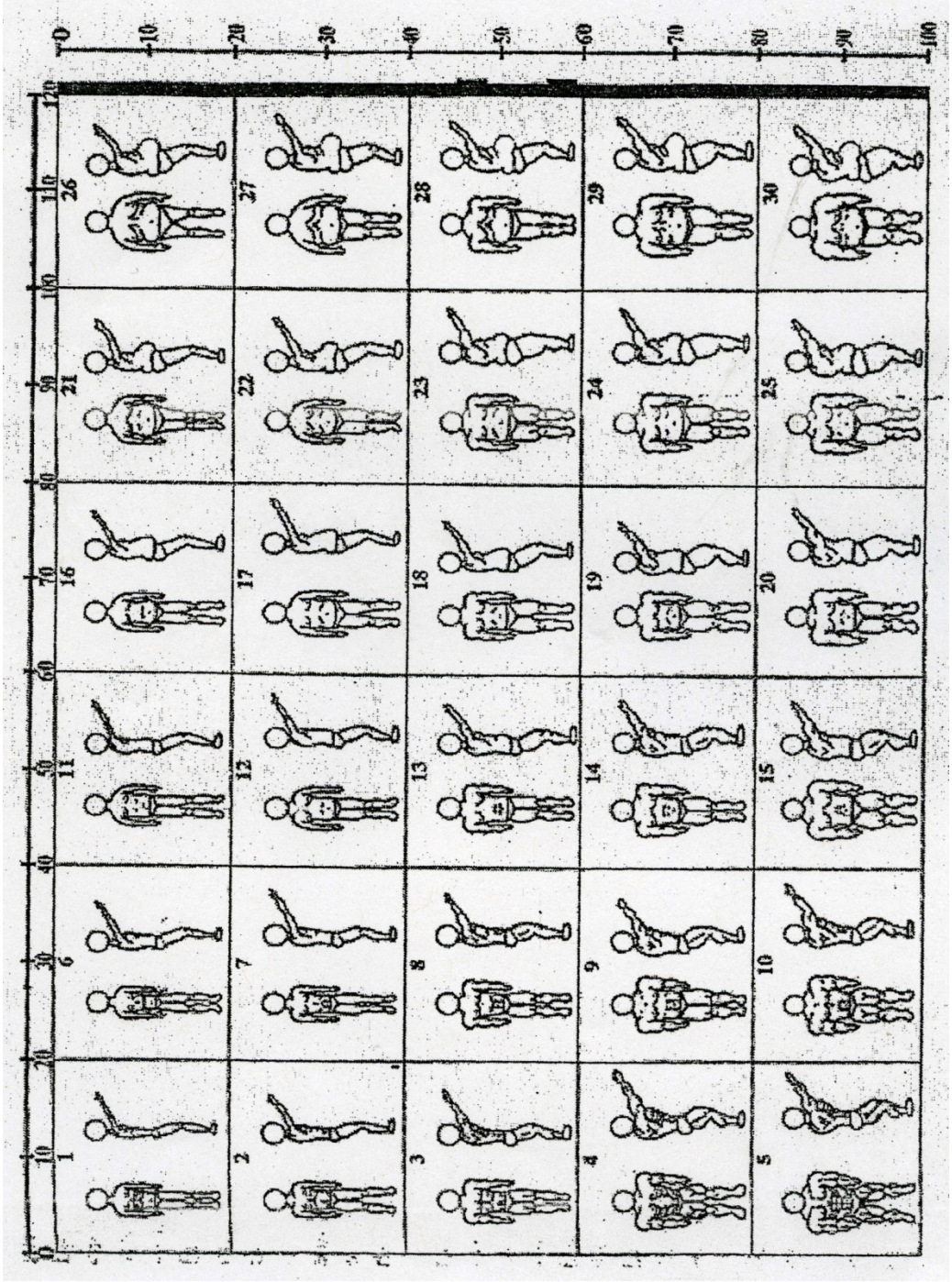
(1) choose the figure that best represents your *current body* and place the number that corresponds to that picture here: _____.

(2) choose the figure that represents your *ideal body* and place the number that corresponds to that picture here: _____.

(3) choose the figure you feel is *most attractive* and place the number that corresponds to that picture here: _____.

(4) choose the figure that you feel is *most attractive to females* and place the number that corresponds to that picture here: _____.

Bodybuilder Image Grid (BIG)



Appendix D

Body Dissatisfaction Survey

Body Assessment Scale

The following are some areas in which people tend to be concerned about their bodies. Please circle the number that corresponds to how positive or negative you feel about each of the areas.

1. **Weight**	1 strongly negative	2	3 neutral	4	5 strongly positive	14. **Chest**	1 strongly negative	2	3 neutral	4	5 strongly positive
2. **Face (appearance)**	1 strongly negative	2	3 neutral	4	5 strongly positive	15. **Chin**	1 strongly negative	2	3 neutral	4	5 strongly positive
3. **Body Shape**	1 strongly negative	2	3 neutral	4	5 strongly positive	16. **Energy Level**	1 strongly negative	2	3 neutral	4	5 strongly positive
4. **Thighs**	1 strongly negative	2	3 neutral	4	5 strongly positive	17. **Body Build**	1 strongly negative	2	3 .neutral	4	5 strongly positive
5. **Upper Body Strength**	1 strongly negative	2	3 neutral	4	5 strongly positive	18. **Physical Coordination**	1 strongly negative	2	3 neutral	4	5 strongly positive
6. **Waist**	1 strongly negative	2	3 neutral	4	5 strongly positive	19. **Buttocks**	1 strongly negative	2	3 neutral	4	5 strongly positive
7. **Reflexes**	1 strongly negative	2	3 neutral	4	5 strongly positive	20. **Calves**	1 strongly negative	2	3 neutral	4	5 strongly positive
8. **Health**	1 strongly negative	2	3 neutral	4	5 strongly positive	21**. Stomach**	1 strongly negative	2	3 neutral	4	5 strongly positive
9. **Shoulders**	1 strongly negative	2	3 neutral	4	5 strongly positive	22. **Physical Condition**	1 strongly negative	2	3 neutral	4	5 strongly positive
10. **Physical Stamina**	1 strongly negative	2	3 neutral	4	5 strongly positive	23. **Triceps**	1 strongly negative	2	3 neutral	4	5 strongly positive
11. **Agility**	1 strongly negative	2	3 neutral	4	5 strongly positive	24. **Abdominal Muscles**	1 strongly negative	2	3 neutral	4	5 strongly positive
12. **Biceps**	1 strongly negative	2	3 neutral	4	5 strongly positive	25. **Legs**	1 strongly negative	2	3 neutral	4	5 strongly positive
13. **Lower Body Strength**	1 strongly negative	2	3 neutral	4	5 strongly positive						

Appendix E

Informed Consent

Informed Consent Document
Men's Body Image

You are being asked to participate in a study looking at Men's Body Image. *Please read the following material carefully.* It describes the purpose of the study, the procedure to be used, risks and benefits of your participation, and what will happen to the information collected from you. This study is being conducted through Western Kentucky University.

The investigator will explain to you in detail the purpose of the study, the procedures to be used, and the potential benefits and risks of participation. You may ask him/her any questions you have to help you understand and discuss with the researcher any questions you may have.

1. Nature and Purpose of the Project: This study is looking at men's body image. The data collected in this study will be used as part of the master's thesis of a psychology graduate student.

2. Explanation of Procedures: Your participation in this study will require you to complete four questionnaires. The first is a demographics survey. In the second survey you be asked to complete a checklist composed of 12 magazines containing material that focus on muscle building. The checklist includes popular magazines such as *Muscle & Fitness* as well as more obscure magazines such as *Natural Muscle Magazine*. In the third survey you will be instructed to make four choices from a series of pictures and pick: (1) a figure that best represents your current body, (2) a figure that represents your ideal body, (3) a figure that you feel is most attractive, and (4) a figure that you feel is most attractive to females. The final survey will ask you questions that address you level of satisfaction with your own body. It consists of 25 items that assesses factors unique to your perception of your own body, such as: body strength, physical conditioning, body shape and size, and physical attractiveness. You will rate the degree of satisfaction that you hold with various aspects of your body (i.e., muscularity, weight, chest, facial appearance).

3. Discomfort and Risks: The risks to participation appear to be small. There is always a small chance that any question could bring about problems. Please let the researcher know if a question has bothered you.

4. Benefits: You may be able to receive extra credit for your psychology course, if your instructor offers such credit (be sure to check with you instructor). It is the responsibility of the instructor to offer alternate opportunities to receive extra credit for those individuals who are unable to participate or who choose not to participate.

5. Confidentiality: Your identity will be completely anonymous. There will be no way for researchers to know who completed which questionnaires. The data collected from you will be combined with data collected from other people. If the data is presented in a

journal article or at a conference, the data will be presented as averages, which makes it impossible for people to identify any single participant.

6. Refusal/Withdrawal: Refusing to be in this study will have no effect on any future services you may receive from Western Kentucky University. Anyone who agrees to participate in this study is free to quit at any time with no penalty.

7. Questions: If you have any questions about the study, please ask them at this point. If you think of questions later on, direct them to Rick Grieve, Ph.D., at (270) 745-4417, Monday-Friday from 9:00 A.M. until 4:30 P.M.

8. Please read the debriefing hand-out following completion of this survey. It contains additional information related to this study and will help to answer any additional questions that you may have in the future.

You understand also that it is impossible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE WESTERN KENTUCKY UNIVERSITY HUMAN SUBJECTS REVIEW BOARD

Paul Mooney, Compliance Coordinator, Human Protections Administrator

TELEPHONE : (270) 745-4652

Appendix F

Debriefing Statement

Debriefing Statement

We would like to thank you for your participation in this research. This study was conducted to examine men's self-perceptions and how those perceptions are related to reading certain types of magazines. Specifically, we are testing to determine if reading muscle magazines will create higher levels of body dissatisfaction. If you would like to have a copy of the final research project, please contact Dr. Rick Grieve after December 15, 2009, at (270)745-4417. His office is located at TPH 258, Department of Psychology, Western Kentucky University, Bowling Green, KY 42101. Some individuals may experience anxiety that results from body image concerns. If you have questions regarding this study or if you have concerns related to body dissatisfaction, please contact Dr. Grieve at any time.

Appendix G

Human Subjects Review Board Approval

WESTERN KENTUCKY UNIVERSITY
Human Subjects Review Board
Office of Sponsored Programs
301 Potter Hall
270-745-4652; Fax 270-745-4211
E-mail: Paul.Mooney@wku.edu

In future correspondence, please refer to HS10-007, July 10, 2009

Richard H. Kirchmeyer
c/o Dr. Rick Grieve
Psychology
WKU

Richard H. Kirchmeyer,

Your revision to the research project, *An Examination of Body Dissatisfaction and Media Exposure*, was reviewed by the HSRB and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk. Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable; and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.

1. In addition, the IRB found that you need to orient participants as follows: (1) signed informed consent is not required; (2) Provision is made for collecting, using, and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data. (3) Appropriate safeguards are included to protect the rights and welfare of the subjects.

This project is therefore approved at the Exempt Review Level

2. Please note that the institution is not responsible for actions regarding this protocol before approval. If you expand the project at a later date to use other instruments please re-apply. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office of Sponsored Programs at the above address. Please report any changes to this approved protocol to this office. A Continuing Review protocol will be sent to you in the future to determine the status of the project. Also, please use the stamped approval forms to assure participants of compliance with The Office of Human Research Protection regulations.

Sincerely,

Paul J. Mooney, M.S.T.M.
Compliance Manager
Office of Sponsored Programs
Western Kentucky University

--Paul J. Mooney
Compliance Manager
Office of Sponsored Programs
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