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# The Effects of Picture Presentation on Male Body Shame and Muscle Dysmorphia

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THE EFFECTS OF PICTURE PRESENTATION ON MALE BODY SHAME  
AND MUSCLE DYSMORPHIA

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  
Samantha A. Wilson  
May 2010

THE EFFECTS OF PICTURE PRESENTATION ON MALE BODY SHAME  
AND MUSCLE DYSMORPHIA

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# THE EFFECTS OF PICTURE PRESENTATION ON MALE BODY SHAME AND MUSCLE DYSMORPHIA

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The purpose of this study was to investigate whether picture presentation influenced men's experienced body shame or Muscle Dysmorphia symptomatology, and whether there was a relationship between body shame and Muscle Dysmorphia.

Participants were 112 men attending Western Kentucky University. Participants completed the Body Shame Questionnaire and Muscle Dysmorphia Inventory.

Participants were randomly assigned to either view eight photographs of average men or eight photographs of muscular men. After viewing the photographs, the participants completed the Objectified Body Consciousness Scale and the Muscle Appearance

Satisfaction Scale. Although there was a trend, results indicate that men who view photographs of muscular men do not experience more body shame than those who view photographs of average men. In the sample, 63.5% reported that they were dissatisfied with their bodies, 69% with their chest size, 69% with their own body build, 65% with their arms, and 63% were dissatisfied with their own abdomen. Results indicate that viewing photographs of muscular men does not increase one's symptomatology of MD.

However, there was a positive correlation between body shame and muscle dysmorphia symptoms for both men who viewed photographs of muscular men and those who viewed photographs of average men.



## Introduction

The American culture places a great emphasis on physical attractiveness.

American women are immersed in a culture that idealizes a slender body frame from birth that is heavily shaped by the media (Groesz, Levine, & Murnen, 2002; Guillen & Barr, 1994). Despite the plethora of research on female body image and body shame, currently, little research has been conducted on body image and body shame in relation to men. One reason that men have not been studied is based upon the misconception that men are not as pressured to obtain a certain body shape as women are (Cash, Counts, & Huffine, 1990; Dwyer, Feldman, & Mayer, 1967; Loosemore, Mable, & Galgan, 1989; Striegel-Moore & Silberstein, 1985). Although men are not generally pressured to lose weight, they experience a different type of coercion; pressure to be muscular. Men experience a trivial amount of pressure from the media to be thin, primarily because the ideal body type for the average American male is muscular rather than simply thin (Grieve, Newton, Kelly, Miller, & Kerr, 2005; Grieve, 2007). A primary reason that women's body image has been so extensively studied is due to the fact that women's preoccupation with thinness is positively correlated with an increase in the prevalence of Anorexia Nervosa (AN) and Bulimia Nervosa (BN) (Harrison & Cantor, 1997).

Just as the preoccupation with thinness can result in the development of a psychological disorder for women, the same is true for men. The pressure to be muscular for men is comparable to the pressure to be thin for women. Due to the desire to be muscular, men can develop a form of Body Dysmorphic Disorder called Muscle Dysmorphia (MD) (Pope, Gruber, Choi, Olivardia, & Phillips, 1997). Muscle Dysmorphia primarily affects men, particularly body builders and individuals who

engage in weight lifting (Pope, Katz, & Hudson, 1993). Diagnostic criteria for MD include a person's preoccupation with the belief that one's body is not lean or muscular enough, despite the fact that his or her own body is more muscular than the average individual. The preoccupation with body shape is persistent and causes significant impairment or distress in one's daily functioning (Olivardia, 2001). Body dissatisfaction and MD symptomatology are highly correlated (Choi, Pope, & Olivardia, 2002). Individuals with MD experience extreme distress over their perceived lack of musculature. They often take steps to avoid situations in which their bodies are exposed to others and they typically maintain a strict workout schedule at the expense of important occupational, social, or recreational activities. They diet, lift weights, and use substances obsessively but show no regard for the associated psychological or physical consequences (Olivardia, 2001).

There is much debate as to whether or not MD should be classified as a form of Body Dysmorphic Disorder or if it should have its own classification. MD has previously been termed the *Adonis Complex* (Pope, Phillips, & Olivardia, 2000), *bigorexia* (Pope et al., 1993; Olivardia, 2001; Phillips, O'Sullivan, & Pope, 1997) and *reverse anorexia nervosa* (Pope et al., 1993) because of its similarities with AN (Grieve, 2007). Perceived body distortion occurs in both MD and AN. Women with AN view themselves as larger than they actually are (Fairburn & Brownell, 2002), whereas men with MD view themselves as much smaller than they actually are (Thompson & Cafri, 2007).

Similarly, just as eating disorders are predominantly found in women, MD is primarily found in men. The ratio of eating disorders is approximately 10 females to 1

male. This is the same ratio (10 to 1) of weight loss and dieting content that is found when comparing women's magazines to men's magazines (Anderson & DiDomenico, 1992). Grieve and Bonneau-Kaya (2007) found that from 1992 to 2007 the number of weight-gain advertisements had gradually decreased while the number of weight loss advertisements had risen substantially; however, men are still exposed to more weight-gain advertisements than women are. Even though the advertisements are directed less towards weight-gain, men report that they still feel the pressure to obtain the muscular body type (Ridgeway & Tylka, 2005).

The media is influential in socializing not only adults towards the normative idealized standards, but children as well. Harrison (2000) found that male and female children exhibited an increase in eating disorder symptomology after viewing television. When considering the development of eating disorders, the media is the most influential source of socialization about the ideal body type (Groesz et al., 2002). Since men, like women, are affected by the media, this is quite alarming, given the fact that over the last 15 to 20 years the number of magazines that are dedicated to men's fitness, particularly gaining muscle mass, has increased. Moreover, not only has the sheer number of men's fitness magazines increased, but the number of men subscribing to these magazines has risen exponentially. The circulation of men's fitness magazines has increased substantially over time. For example, *Men's Health* magazine circulation increased from about 250,000 to 1.5 million in approximately ten years (Pope, Phillips et al., 2000). Finally, the proportion of undressed men in these magazines has skyrocketed from 3% in 1950 to 35% in 1990 (Olivardia, 2002). These findings suggest that the cultural norms of

the ideal male body type have become substantially more muscular over time (Pope, Phillips et al., 2000).

In conjunction with the societal muscular ideal, exposure to these fitness magazines results in a decrease in men's body satisfaction (Morry & Staska, 2001). Over time, the number of men who reported that they are dissatisfied with their appearance has increased (Olivardia, Pope, Borowiecki, & Cohane, 2004). In 1997, 43% of men reported that they were discontent with their bodies compared to 15% in 1972. Similarly, 56% of women in 1997 reported that they were discontent with their bodies. This gender gap has steadily narrowed over the last 30 years (Olivardia, 2002). Men most often report that they are dissatisfied with their chest, arms, and abdominal regions (Ridgeway & Tylka, 2005). The majority of college men acknowledge dissatisfaction with at least one area of their bodies (Ridgeway & Tylka, 2005). Underweight men in college are equally as dissatisfied with their bodies as overweight women in college (Harmatz, Gronendyke, & Thomas, 1985).

This dissatisfaction with one's body is even evident in young boys. The preference for the societal ideal body shape appears to develop between the ages of six and seven (Wright & Bradbard, 1980). Children as young as six years old have expressed a preference for the media-portrayed body shape (Staffieri, 1967). Pope, Phillips et al. (2000) found that more than half of the young men ages 11 to 17 in their study reported a desire to achieve a body type that was only attainable through the use of steroids. This preference for muscularity peaks during adolescence and young adulthood (Collins & Plahn, 1988). In a sample of adolescent males, 69% were dissatisfied with their current body shape due to the fact that it deviated too much from the societal ideal

body type (Furnham & Calnan, 1998). Roughly 25% of males in middle school engage in regular weight lifting to gain muscle mass (Smolak, Murnen, & Thompson, 2005). Grieve, Wann, Henson, and Ford (2006) found that 37% of college-aged men reported that they were dissatisfied with the appearance of their bodies, and due to this dissatisfaction they engaged in both healthy and unhealthy weight loss behaviors. Moreover, Grieve and colleagues found that the more dissatisfied male participants were with their bodies, the more likely they were to engage in both healthy and unhealthy weight loss activities.

One avenue of socialization towards the ideal body type is through the manipulation of children's toys. When increased to normal adult size, Barbie's dimensions are unrealistic and unattainable for the average adult, so researchers questioned whether exposure to Barbie would lead women to develop eating disorders in order to attain Barbie's body type (Lee, 1993). In 1998, Mattel changed the dimensions of Barbie so that the toy would not foster unrealistic expectations for females (Stateman, 1998). Similar to Barbie, male action figures' features are disproportionate in size. Childhood action figures have progressively become more and more muscular over the last 30 years (Pope, Olivardia, Gruber, & Borowiecki, 1998). For the average man to replicate the well-known Ken doll, he would have to increase his height by 20 inches, his chest by five inches, his waist by six inches, and his neck circumference by 7.9 inches (Brownell & Napolitano, 1994). The average man would have to go to great lengths to obtain the desired Ken-doll shape. However, the proportions of the Ken doll have remained unchanged over time. The G.I. Joe Extreme action figure, developed in the 1990s, is another example of a completely unrealistic representation of an adult male.

The toy's biceps were almost as large as its waist. For an adult man to replicate this toy, he would need to have a 140 cm chest and 69 cm biceps. Even dedicated body builders cannot attain these proportions (Olivardia, 2002). Norton, Olds, Olive and Dank (1996) found that children's dolls (Barbie, Ken, G.I. Joe, etc.) influence children's perceptions of their own bodies and the bodies of others. This concept is disheartening, given the fact that the chance of encountering an individual with Barbie's or Ken's body shape is less than 1 in 100,000. Thus, it leads one to conclude that children's perceptions of body image are distorted primarily by exposure to their own toys (O'Pry, 2003).

Unfortunately, the emphasis on muscularity does not end with childhood toys. Men experience body dissatisfaction when confronted with photographs of other men who appear to fit the ideal body type of the American society (Baird & Grieve, 2006; Lorenzen, Grieve & Thomas, 2004). Lorenzen et al. (2004) found that men's body dissatisfaction increased after viewing images of muscular men. Moreover, they found that only a brief exposure to the images was necessary to have an impact on the men's body dissatisfaction. They also found that men's level of body satisfaction remained relatively constant after exposure to images of average men (Lorenzen et al.). Baird and Grieve found similar results to that of Lorenzen et al.; consistent with what the researchers hypothesized, viewing male models in advertisements increases men's body dissatisfaction.

Individuals are indoctrinated with the societal body type through a vast array of avenues such as the media, peers, family members, schools, athletics, and health care professionals (Smolak et al., 2005; Stanford & McCabe, 2005). The ideal male body type is evident through *Playgirl* centerfolds (Leit, Pope, & Gray, 2001), fitness programs, and

magazine advertisements (Lorenzen et al., 2004). The media portrays the ideal body type of a man to be muscular and athletic, which is not the body type of the average adult male. The average male does not compare to the media generated norm given that 70.5% of men age 20 years and older are not muscular but rather overweight (National Institute of Diabetes and Digestive and Kidney Diseases, 2007). The trend toward muscularity has increasingly escalated in the last 15 to 20 years. Even the more muscular male actors from the 1940s to the 1980s pale in comparison to their beefy present day counterparts (Pope, Gruber et al., 2000). Just as the female models have progressively become more slender over time, the male models have progressively become more muscular over time (Vartanian, Giant, & Passino, 2001). The muscular ideal is not only introduced through a variety of sources (media, peers, family members, etc), but these same sources reinforce these standards (Smolak et al., 2005; Stanford & McCabe, 2005).

### *Body Image*

Body image is defined as an individual's unique perception of his or her own body (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Depending upon whether the individual views his/her body image negatively or positively, this internal view of oneself can modify an individual's behavior (Thompson et al.). The media is an integral component in one's belief in the ideal standard. The media distorts the concept of body image through the use of such products as dieting and weight-altering products, which facilitates the notion that body shape and size are flexible, and that achieving the ideal body type is relatively easy to attain (Brownell, 1991). Even though the media images are heavily edited and refined with computer software, they appear quite realistic (Richins, 1991; Thompson & Heinberg, 1999). The media generates social comparisons

(Richins, 1991), which can lead to a decrease in body satisfaction with one's current body shape (Grieve, 2007).

Like women, men are negatively affected by the media. As mentioned earlier, men are inundated with a specific body type that society has deemed ideal. Men internalize this ideal body type, and subsequently embed it into their unconscious. Men experience the "appearance comparison" process, in which they compare their own bodies to the ideal body type image that they view in the media (Bartlett, 2008). After men view the images of the muscular ideal body type that the media depicts, they compare their own bodies to the ideal type, which, in turn, causes them to feel worse about their own bodies, and, consequently, experience a lower body satisfaction. Once men experience this lower body satisfaction due to their perceived negative self-image, they engage in behaviors to alleviate this distress, such as excessive exercising and steroid use (Bartlett), or possibly even cosmetic surgery. This may be especially true for underweight men as body dissatisfaction is greatest among men who are below average weight (Harmatz et al., 1985). This dissatisfaction can have serious negative effects on these men's social adjustment and self-esteem. As a result, they may be more likely to use steroids, male hormones, and bodybuilding in order to obtain a hypermesomorphic (extremely muscular) look (Blouin & Goldfield, 1995).

The ideal body image for women is a slender frame, whereas for men it is the upside down triangular shape. This shape is characterized by a muscular, well-developed chest and arms, with wide shoulders that taper down to a narrow waist. This shape is often exhibited in the main characters of action movies such as Vin Diesel, Sylvester Stallone, Arnold Schwarzenegger, and Jean Claude Van Damme (Pope, Phillips et al.,



2000). Just as *Glamour* and *Vogue* publish magazines that aim to seduce women into the notion that thinner is better through the use of articles and advertisements that focus on losing weight, men's magazines are just as sinister. Men's magazines publish considerably fewer articles and advertisements that focus on losing weight than female magazines. The focus of these magazine articles and advertisements is on changing the body shape rather than losing weight (Anderson & DiDomenico, 1992; Grieve, & Bonneau-Kaya, 2007). This suggests that men are less concerned with being thin and more concerned with the muscularity and shape of their bodies (Leit et al., 2001). Research supports this concept, as Salusso-Deonier, Markee, and Pederson (1993) found that male participants considered muscular images of males more appealing than their skinnier counterparts.

Research has shown that women believe that men prefer a significantly thinner female body shape than men actually prefer (Rozen & Fallon, 1985). This concept can be seen in regards to men's body image as well. Pope, Gruber et al. (2000) found that, on average, men preferred a body type that was 28 pounds more muscular than their own body type. Additionally, they found that men believed that women preferred a male body type that was about 30 pounds more muscular than themselves. Similarly to the previous findings with women, there is a discrepancy between the body type that men think women prefer and the body type that women actually prefer (Grieve et al., 2005). Men believed that women preferred a more muscular build for men than even they preferred for themselves (Grieve et al.; Pope, Gruber et al.). In actuality, researchers found that women prefer an average-looking male body (Grieve et al.; Pope, Gruber et al.). This phenomenon is not only prevalent for men in the United States, but it also applies to men

in Austria and France. In all three countries, men prefer a body type that is approximately 28 lbs more muscular than their own (Pope, Gruber et al.). This preference for a more muscular build has progressively become a societal trend over the last 30 years. Between 1973 and 1997, *Playgirl*/centerfold models became substantially more dense and muscular (Leit et al., 2001). This change may communicate to men that women prefer more muscular male bodies (Leit et al.).

Women who view images of female fashion models are less satisfied with their own physical appearance and weight (Pinhas, Toner, Ali, Garfinkel, & Stuckless, 1998). Research suggests that, like women, men are also less satisfied with their own physical appearance when they view images of muscular men, compared to when they view images of average men (Lorenzen et al., 2004). Men who are exposed to the culturally ideal muscular body type adopt the culture's ideals about physical attractiveness, which, in turn, leads the average man to desire to gain approximately three pounds of muscle mass (Pinhas et al., 1999) and increase his chest size (Ridgeway & Tylka, 2005; Tantleff-Dunn & Thompson, 2000).

### *Body Shame*

A component of body image is body shame. Noll and Fredrickson (1998) defined shame as “the emotion [that] occurs whenever individuals evaluate themselves relative to internalized or cultural ideals and fail to meet these ideals. Shame results from global attributions of failure [that] is attributed to the self in its totality” (p. 624). Body shame is a significant component of body satisfaction (O’Pry, 2003). The anticipation of body shame motivates women, even women who are satisfied with their own weight, to engage

in unhealthy eating practices in order to maintain their body satisfaction, and to avoid experiencing body shame (Noll & Fredrickson).

The media plays an integral role in the development of body dissatisfaction and body shame. The media promotes an ideal body type that is continually reinforced through product advertisements. These advertisements continually suggest that this ideal body type is easily attained (Brownell, 1991), despite the fact that the images have undergone extensive editing and refining with computer software (Richins, 1991; Thompson & Heinberg, 1999). Since this ideal body type is not as easily attained as the advertisements suggests, this inevitably leads to body dissatisfaction. Current research suggests that women who view images of the ideal female body experience an increase in body shame and appearance anxiety as compared to women who view images of the average female body type (Monro & Huon, 2005).

Moreover, Field, Camargo, Taylor, Berkey, & Colditz (1999) found that adolescent girls who viewed diet magazines expressed a stronger desire to change their own body weight and shape. Exposure to the ideal body type is associated with negative feelings about the body as well as a desire to change body weight and shape in women. Women whose attention is heavily focused on appearance are more likely to be vulnerable to experiencing negative feelings about their bodies, especially those women who view themselves from the point of view of an outsider (Fredrickson & Roberts, 1997). Women who are particularly at risk are those who engage in self-objectification. Self-objectification is the propensity to value appearance above and beyond one's abilities or any other attributes (Fredrickson & Roberts). Women high in self-objectification are at a greater risk of developing eating disorders and body image

disturbances; likewise, men who are high in self-objectification are at a greater risk of developing Muscle Dysmorphia (Grieve & Helmick, 2008). Individuals who engage in self-objectification experience an increase in body shame and appearance anxiety, particularly when their body is the object of scrutiny (Fredrickson & Roberts; McKinley & Hyde, 1996). Individuals who are exposed to the ideal body type through the media often focus their attention on their bodies. The media encourages individuals to compare and scrutinize their own bodies as they relate to the ideal body type (Kilbourne, 1994; Myers & Biocca, 1992).

Advertisements that promote products designed to alter the body, such as those promoting dieting or exercise, force the viewers to focus on the unacceptability of their own bodies when compared to the idealized image that is portrayed in these advertisements. Current research suggests that women experience greater body shame and appearance anxiety when viewing advertisements that are body focused than when viewing advertisements that are focused on non-body related products (Monro & Huon, 2005). However, the degree of experienced body shame is dependent upon the level of self-objectification in which the individual engages. Women who are high in self-objectification experience a higher degree of body shame and appearance anxiety, whereas women who are low in self-objectification experience a lower degree of body shame and appearance anxiety. Despite the differences in experienced body shame, all women experience body shame and appearance anxiety when viewing images of females who project the ideal body type (Monro & Huon, 2005).

### *Limitations of Previous Research*

While there is substantial literature on female body image, shame, and eating disorders, there is not as much research in the realm of male body shame. At present, there has been limited research into MD and eating disorders that affect men. Despite the plethora of research focusing on female body image, little research exists on male body image. Moreover, research on body shame is nearly nonexistent. The few studies that sought to measure body shame in men did not adequately give the participants enough time to process the images or experience body shame in relation to the images. By giving the participant more photographs and more questions to answer about these photographs, this gives them more time to view the photographs and thus they have more time to process the images than in past research. Another limitation to past research concerns the issue of homosexuality. Asking the participant to rate the images based on how attractive women would rate the images, rather than how attractive they would rate the images serves to reduce some of the stigma that is associated with rating another male based on physical attractiveness.

### *Current Study*

While it is evident that body shame is directly related to experienced body dissatisfaction from viewing images of an ideal body type in women, current research is lacking with regards to men. The current study sought to determine whether men experience a higher degree of body shame when they view photographs of muscular men than when they view photographs of average men. The following hypotheses were evaluated:

Hypothesis 1: Men who view photographs of muscular men will experience more body shame than men who view photographs of average men.

Hypothesis 2: Men who view photographs of muscular men will report higher symptoms of muscle dysmorphia than men who view photographs of average men.

Hypothesis 3: There will be a positive correlation between body shame and muscle dysmorphia symptoms for men who view photographs of muscular men.

## Method

### *Participants*

The sample consisted of 112 male participants. The participants were recruited at Western Kentucky University. The minimum age of participants was 18 and the maximum age was 56. The mean age of participants was 22.06 ( $SD = 6.011$ ). The mean height of participants was 70.53 inches ( $SD = 3.19$ ). The mean weight of participants was 178.23 pounds ( $SD = 43.45$ ). The mean Body Mass Index (BMI) of participants was 25.19 ( $SD = 5.88$ ). The sample consisted of 76 (67.9%) Caucasian participants, 11 (9.8%) African American participants, 9 (8%) Asian participants, 4 (3.6%) Hispanic participants, 3 (2.7%) Indian participants, 2 (1.8%) Arabic participants, 2 (1.8%) Native American participants, 2 (1.8%) Biracial participants, 1 (.9%) Bosnian participant, and 1 (.9%) Pacific Islander participant. Participants past, present, and intended future use of cosmetic surgery, steroids, and male cosmetics are summarized in Table 1. Participants exercise, dieting, and workout habits are summarized in Table 2.

Table 1

*Demographics: Percentage of participants who have engaged, are currently engaging in, or would engage in using cosmetic surgery, steroids, and male cosmetics.*

Variable	Past	Present	Future
Cosmetic Surgery	4.5%	1.9%	7.4%
Steroid Use	4.6%	0.9%	3.7%
Male Cosmetics	2.8%	6.4%	7.4%

Table 2

*Demographics: How often participants reported working out, dieting, and exercising.*

Variable	3+ Days a week	1-2 days a week	A couple times a month	Rarely/Never
Exercise	36.4%	37.3%	17.3%	9.1%
Diet	5.5%	12.7%	38.2%	43.6%
Workout	34.5%	26.4%	20.0%	19.1%

### *Design*

The design of the study was a 2 (type of photographs: muscular vs. normal) x 2 (time: pretest vs. posttest) mixed design. The independent variables were the type of picture displayed and time. The dependent variables were the level of body shame experienced and the degree of muscle dysmorphia symptoms.

### *Measures*

*Demographics.* Participants completed a demographics questionnaire that included information about each participant's age, education level, gender, and ethnicity. Data about the participants' views toward cosmetic surgery, steroid use, and male cosmetics, and how often the participant engages in dieting, exercising, and working out were also recorded (see Appendix A).

*Body Shame.* The Body Shame Questionnaire (BSQ; Noll & Fredrickson, 1998; see Appendix B) is a 28-item Likert-type scale. This questionnaire provides a list of body parts and assesses participants' desires to change these body parts through a yes or no response. Participants are asked to rate the frequency that they think about changing this body part and the intensity that they desire to change the body part. The frequency



and intensity questionnaires range from 1 (*seldom/mild*) to 9 (*very often/intense*).

Construct validity for the BSQ ranges from .47 to .75 (Noll & Fredrickson, 1998).

The Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996; see Appendix C) is a 24-item Likert-type scale. The three components that make up the OBCS are Body Shame, Surveillance, and Control Beliefs. This scale measures how ashamed a participant is of his or her body, and the extent to which he or she has internalized the cultural ideal body type. This scale ranges from 1 (*definitely*) to 7 (*definitely not*). Examples of the OBCS include such statements as “when I’m not exercising enough, I question whether I am a good enough person” and “when I’m not the size I think I should be, I feel ashamed.” The internal consistencies of the OBCS scales were moderate to high: Body Shame ( $\alpha = .75$ ), Surveillance ( $\alpha = .89$ ), and Control Beliefs ( $\alpha = .72$ ) (McKinley & Hyde, 1996). The internal consistencies of the OBCS scales for this study were: Body Shame ( $\alpha = .77$ ), Surveillance ( $\alpha = .61$ ), and Control Beliefs ( $\alpha = .64$ ). The scoring for the OBCS was adapted for the present study so that a higher score on the body shame, control, and surveillance subscales indicated an elevated degree of internalization of the cultural idealized body type. Therefore, all items were reversed scored. In the current study the internal consistency of the total OBCS was  $\alpha = .65$ .

*Photograph Assessment.* An adaptation of the Male Attractiveness Scale (MAS; see Appendix D) is the distracter task used by Lorenzen et al. (2004), and consists of eight items that assesses participants’ attitudes about the photographs. The scale assesses such areas as attractiveness, muscularity, and physical fitness of the models. The items are rated on a scale of 1 (*not at all*) to 7 (*extremely*). Examples of the MAS include such

questions as “how muscular do you think other women would find this man?” and “how physically fit do you think this man is?”

*Muscle Dysmorphia.* The Muscle Appearance Satisfaction Scale (MASS; Mayville, Williamson, White, Netemeyer & Drab, 2002; see Appendix E) is a 19-item Likert-type scale. This questionnaire assesses participants’ muscle dysmorphia symptoms. The scale ranges from 1 (*definitely disagree*) to 5 (*definitely agree*). Examples of the MASS include such statements as “my self-worth is very focused on how my muscles look” and “it is OK to use steroids to add muscle mass.” Alpha coefficients for the MASS range from .73 to .82. Cronbach’s  $\alpha$  and test-retest reliability for the MASS are both greater than .70 (Mayville et al.). The internal consistency of the MASS for this study was  $\alpha = .88$ .

The Muscle Dysmorphia Inventory (MDI; Short, 2005; see Appendix F) is 34-item Likert-type scale. The MDI measures an individual’s Muscle Dysmorphia symptoms including level of body anxiety, inappropriate eating habits, and compulsivity. Response options range from 1 (*never*) to 6 (*always*). Examples of items from the MDI include such statements as “when I see muscular men, it makes me feel badly about my body shape or size,” and “when I see my reflection in the mirror or window, I feel badly about my body size or shape.” A higher score on this scale indicates a higher level of Muscle Dysmorphia symptomatology. Cronbach’s alpha for the MDI is .87, which indicates that the MDI has high internal consistency (Short, 2005). Cubberley (2009) found that the MDI’s Cronbach’s Alpha is .85. The internal consistency of the MDI for this study was  $\alpha = .86$ .

*Photographs.* The participants viewed photographs of either muscular or average men (see Appendix G). These photographs consisted of 16 advertisements (eight average men and eight muscular men) from men's magazines. The advertisements were images of men without their shirts and their faces were included. The muscular images are men that have been identified as having high levels of muscle mass. The average images are men that have been identified as having low levels of muscle mass. These images include men that are on a continuum that ranges from thin, to normal weight, to slightly obese in size.

### *Procedure*

Male participants were recruited from a variety of sources including the Department of Psychology Study Board, a Developmental Psychology course, and randomly on campus at Western Kentucky University in Bowling Green, KY. After obtaining Human Subjects Review Board (HSRB) approval (see Appendix H), the participants were asked to participate in a research study that was being conducted by a graduate student at Western Kentucky University. Participants were randomly assigned to one of two conditions. In the first condition participants viewed images of average men and in the second condition the participants viewed images of muscular men. After informed consent (Appendix I) was obtained from the participants, they were instructed to complete the demographics form. After turning in the demographics form, the participants completed the BSQ and MDI. They were then asked to rate photographs of male models on such characteristics as physical fitness and on how attractive they thought women would find these men. After they viewed the photographs they were asked to complete a questionnaire packet that included the OBCS and the MASS.

Finally, the participants were given the debriefing form (see Appendix J). The entire process took approximately 20 to 30 minutes to complete.

## Results

Scores from each scale were summed to create four separate measures, the BSQ, OBCS, MASS, and the MDI. The BSQ was standardized using Z scores and the OBCS was standardized using Z scores when it was compared to the BSQ. Then, a Cronbach's alpha was computed for each of the summed scores.

An analysis on standardized pre-exposure scores on the BSQ (Cronbach's  $\alpha = .94$ ; *Cohen's d* = -0.01) was compared between the participants who viewed photographs of muscular men ( $M = -0.01$ ,  $SD = 1.99$ ) and those who viewed photographs of average men ( $M = 0.01$ ,  $SD = 1.94$ ), indicated that there was no significant difference between the two groups,  $t(108) = -0.06$ ,  $p = .95$ . An examination of pre-exposure scores on the MDI (Cronbach's  $\alpha = .86$ ) compared participants who viewed photographs of muscular men ( $M = 83.03$ ,  $SD = 19.94$ ) and those who viewed photographs of average men ( $M = 85.58$ ,  $SD = 21.74$ ), indicated that there was no significant difference between the two groups,  $t(108) = -0.64$ ,  $p = .52$ , *Cohen's d* = -0.17.

### *Body Satisfaction*

Participants were classified as dissatisfied with their bodies if they rated themselves between 1 (*not at all satisfied*) to 7 (*somewhat satisfied*) for question 29 on the BSQ. In the sample, 63.5% reported that they were dissatisfied with their bodies, while 36.4% reported that they were satisfied with their bodies.

Participants were classified as dissatisfied with a specific body part if they rated a desire to change their body part on the BSQ. In the sample, 69% of the male participants reported that they were dissatisfied with their own chest size, 69% reported that they

were dissatisfied with their own body build, 65% reported being dissatisfied with their arms, and 63% reported being dissatisfied with their abdomen.

### *Distracter Task*

During the task participants rated the images on a 1 (*not at all*) to 7 (*extremely*) scale based on the participant's perception of the images based on attractiveness, muscularity, and physical fitness. An independent samples *t*-test revealed that there was a significant difference between the men who viewed muscular images and those who viewed average images for the questions based on attractiveness  $t(109) = 5.65, p < .05$ , muscularity  $t(109) = 15.51, p < .05$ , and physical fitness  $t(109) = 12.73, p < .05$ . These findings indicate that the participants that viewed the photographs of the muscular men felt that the images were more attractive, muscular, and physically fit than the men who viewed the photographs of the average men.

### *Hypothesis Testing*

The first hypothesis of the study states that men who view photographs of muscular men will experience more body shame than men who view photographs of average men. To evaluate this hypothesis, an independent samples *t*-test was performed on the results of the OBCS to determine if there were differences in body shame between the men who viewed the photographs of muscular men versus those who viewed the photographs of average men. The analysis revealed that there was a trend,  $t(102) = 1.65, p = .102$ ; *Cohen's d* = 0.33, indicating that the men who viewed the photographs of muscular men ( $M = 96.54, SD = 11.84$ ) had more shame than those who viewed the photographs of average men ( $M = 92.51, SD = 13.09$ ). An analysis was performed on the three subscales of the OBCS, which measure body shame, surveillance, and control

beliefs. On the body shame subscale, there was no difference,  $t(106) = .41, p = .68$ , between the men who viewed the photographs of the muscular men ( $M = 25.20, SD = 7.66$ ) and the men who viewed the photographs of the average men ( $M = 24.56, SD = 8.56$ ). On the surveillance subscale, there was no difference,  $t(105) = .89, p = .38$ , between the men who viewed the photographs of the muscular men ( $M = 34.54, SD = 5.87$ ) and the men who viewed the photographs of the average men ( $M = 33.40, SD = 7.43$ ). On the control subscale, there was a difference,  $t(106) = 2.14, p < .05$ , between the men who viewed the photographs of the muscular men ( $M = 36.64, SD = 3.73$ ) and the men who viewed the photographs of the average men ( $M = 35.10, SD = 3.73$ ). A paired samples t-test was conducted on the BSQ and the OBCS total score to determine if men viewed their bodies more negatively after viewing images of muscular or average men. The analysis revealed that there was no difference,  $t(103) = -.15, p = .88$ , between how the participants viewed their bodies before and after exposure to the photographs. A paired samples t-test was conducted on the BSQ and the OBCS body shame subscale to determine if men felt more shame after viewing images of muscular or average men. The analysis revealed that there was no difference  $t(107) = -.08, p = .93$ , between the participants body shame before and after exposure to the photographs.

The second hypothesis of the study is that men who view photographs of muscular men will report higher symptoms of muscle dysmorphia as measured by the MASS, than men who view photographs of average men. To evaluate this hypothesis, an independent samples *t*-test was performed on the results of the MASS to determine if there were differences in the reported muscle dysmorphia symptoms of the men who viewed the muscular images versus those who viewed the average images. The analysis

revealed that there was not a significant difference,  $t(108) = -.30$ ,  $p = .77$ , *Cohen's d* = -.06, in the reported muscle dysmorphia symptoms of the men who viewed the muscular images ( $M=38.83$ ,  $SD = 11.35$ ) versus those who viewed the average images ( $M = 39.52$ ,  $SD = 13.06$ ).

The third hypothesis of the study is that there would be a positive correlation between body shame and muscle dysmorphia symptoms for men who view photographs of muscular men. To evaluate this hypothesis, a correlation was performed between the OBCS body shame subscale and the MASS. There was a positive correlation ( $r = .29$ ,  $p < .05$ ) between the OBCS body shame subscale and the MASS. In addition, there was a positive correlation ( $r = .54$ ,  $p < .001$ ) between the OBCS body shame subscale and the MASS for the participants who viewed average men.

### *Regression Analysis*

A linear regression analysis was conducted on the BSQ and the OBCS total score to determine if men's initial body dissatisfaction predicted men's post manipulation body dissatisfaction. The analysis revealed that, for men who viewed photographs of muscular men, initial body dissatisfaction predicted their post manipulation body dissatisfaction (see Table 3). The analysis revealed that, for men who viewed photographs of average men, initial body dissatisfaction predicted their post manipulation body dissatisfaction (see Table 4).



Table 3

*Regression analysis results comparing the BSQ and the OBCS total score for men that viewed photographs of muscular men.*

Variable	T	Sig.	$\beta$	Std. Error	R <sup>2</sup>
Muscular Photographs	3.24	.002	.19	.87	.16

Table 4

*Regression analysis results comparing the BSQ and the OBCS total score for men that viewed photographs of average men.*

Variable	T	Sig.	$\beta$	Std. Error	R <sup>2</sup>
Average Photographs	4.50	.000	.31	.88	.31

A linear regression analysis was conducted on the BSQ and the OBCS body shame subscale score to determine if men's initial body shame predicted their post manipulation body shame after viewing images of muscular or average men. The analysis revealed that, for men who viewed photographs of muscular men, initial body shame predicted their post manipulation body shame (see Table 5). The analysis revealed that, for men who viewed photographs of average men, initial body shame predicted their post manipulation body shame (see Table 6).

Table 5

*Regression analysis results comparing the BSQ and the OBCS body shame subscale score for men that viewed photographs of muscular men.*

Variable	T	Sig.	$\beta$	Std. Error	R <sup>2</sup>
Muscular Photographs	3.62	.001	.21	.87	.18

Table 6

*Regression analysis results comparing the BSQ and the OBCS body shame subscale score for men that viewed photographs of average men.*

Variable	T	Sig.	$\beta$	Std. Error	R <sup>2</sup>
Average Photographs	4.85	.000	.33	.88	.34

## Discussion

The current study examined whether men experience a higher degree of body shame and MD after viewing photographs of muscular men than when they viewed photographs of average men. It was expected that men who viewed photographs of muscular men would experience more body shame and report more symptoms of MD than men who viewed photographs of average men. Also, it was expected that there would be a positive correlation between body shame and muscle dysmorphia symptoms for men who viewed the photographs of the muscular men.

The first hypothesis stated that men who viewed photographs of muscular men would experience more body shame than men who viewed photographs of average men. The results of the study provided partial support for this hypothesis. While an independent samples *t*-test found a trend for men who viewed the photographs of muscular men to have more body shame than those who viewed the photographs of average men, it was not statistically significant. This parallels Monro and Huon's (2005) study that suggested that women who viewed images of the ideal female body experienced an increase in body shame and appearance anxiety as compared to women who viewed images of the average female body type. This study has provided partial support to previous studies (Baird & Grieve, 2006; Lorenzen, Grieve & Thomas, 2004; Morry & Staska, 2001) in which men experience body dissatisfaction when exposed to photographs of other men who appear to fit the ideal body type of the American society.

Olivardia (2002) found that 15% of men in 1972 were dissatisfied with their bodies compared to 43% in 1997. In 2006, Grieve et al. found that 37% of college-aged men reported that they were dissatisfied with the appearance of their bodies. In this

sample, 63.5% reported that they were dissatisfied with their bodies. This finding supports Olivardia's (2002) assertion that men are becoming substantially more discontent with their bodies. Moreover, just as Ridgeway and Tylka (2005) reported that male participants were most dissatisfied with their chest, arms, and abdominal regions; this study found that 69% of the male participants reported that they were dissatisfied with their own chest size, 69% reported that they were dissatisfied with their own body build, 65% reported being dissatisfied with their arms, and 63% reported being dissatisfied with their abdomen.

Men's level of initial body shame and body dissatisfaction predicted their post manipulation body shame and body dissatisfaction. This suggests that men's sensitivity to the photographs were dependent upon their original opinions of themselves. This may have resulted due to the participants' level of self-objectification. Fredrickson & Roberts (1997) suggest that those who engage in self-objectification experience an increase in body shame and appearance anxiety when viewing images of the ideal body type. This finding suggests that it may not be the actual picture presentation, but rather the degree to which the individual objectifies his own body that impacts his level of body shame and body dissatisfaction.

With further analysis of the three subscales of the OBCS, the control beliefs subscale yielded statistically significant differences between men who viewed muscular photographs and men who viewed average photographs, which suggests that men who view photographs of muscular men feel that they have more control over their bodies than men who view photographs of average men. This suggests that after men view images of muscular men they feel that they have more control over their own weight.

These findings may have resulted as a coping mechanism that the participants used as a means to reduce or avoid body shame anxiety, in which the participant realizes that with effort he could attain the image's body type.

The second hypothesis stated that men who view photographs of muscular men will report higher symptoms of MD than men who view photographs of average men. This hypothesis was not supported, which suggests that viewing photographs of muscular men does not increase one's symptomatology of MD. This finding is contradictory to current research on MD, which suggests that viewing photographs of muscular men results in body dissatisfaction (Bartlett, 2008; Lorenzen et al., 2004), and thus increases MD symptomatology (Choi, Pope, & Olivardia, 2002). Due to the fact that the MDI and MASS are very similar in content, these findings could be due to the fact that participants remembered their prior responses to the first MD measure and thus responded accordingly. Additionally, this result may have occurred because the second MD inventory was geared more towards the participant's current activities as opposed to their increased likelihood of engaging in MD activities.

The third hypothesis stated that there would be a positive correlation between body shame and muscle dysmorphia symptoms for men who view photographs of muscular men. As predicted for the men who viewed photographs of muscular men, as their body shame increased so did their muscle dysmorphia symptomatology. Unexpectedly the same result was found for men who viewed photographs of average men. This suggests that men in general, who experience more body shame would thus engage in, or be more likely to engage in MD behaviors and/or activities as a means to reduce their experienced body shame. Just as Harrison and Cantor (1997) found that

women's body dissatisfaction is positively correlated with the development of AN and BN, this study has given support to the concept that MD is positively correlated with body shame and body dissatisfaction.

There are limitations to the current study. A limitation to this study is using self report data. Self report measures work under the assumption that the participants answer all the questions honestly. However, there is the possibility that the participants misread the question, did not understand the question, or purposefully answered dishonestly. Another limitation is that MD may be more static in nature, and this study worked under the assumption that it could be evoked through picture presentation. Another limitation to this study is that most of the photographs were of Caucasian individuals, and thus, participants who were not Caucasian may have had difficulty identifying with the images. Another limitation is that the participants were Western Kentucky University students and primarily Caucasian, which should be taken into consideration when generalizing this study to the general population.

A major limitation to this study was that most of the data was collected in a group setting. Even though the participants answered anonymously they may have felt uncomfortable rating another man's body in the presence of other men. Another limitation to this study was the issue of homosexuality. On several occasions participants expressed concern that the study was secretly measuring homosexuality. This may have caused the participants to respond defensively, have difficulty identifying with the image, and in return the participants may not have had the opportunity to experience body shame as the result of viewing the muscular images. While this study has added to the literature

on male body image and male body shame, to understand this relationship fully, more research in this area needs to be conducted.

The present study has added to the wealth of information regarding male body image and male body shame. Overall, these hypotheses provide partial support for the notion that men experience body shame when viewing images of muscular men.

Additionally, this study provides partial support for the Salusso-Deonier et al. (1993) findings that male participants considered muscular images of males more appealing than their skinnier counterparts as the participants rated the muscular images as more attractive, muscular, and physically fit than their average counterparts. Furthermore, this study has aided in the realm of muscle dysmorphia, as this study has found a positive correlation between body shame and muscle dysmorphia symptomatology. Regardless of condition, participants' muscle dysmorphia symptomatology increased as their body shame increased.

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## Appendix A

### Demographics



### Demographics

Directions: Please answer the following questions honestly. DO NOT include your name.

Age: \_\_\_\_\_

Height: \_\_\_\_\_

Weight: \_\_\_\_\_

Gender: \_\_\_\_\_

Ethnicity: \_\_\_\_\_

Education Level: \_\_\_\_\_

Are you interested in or have you in the past engaged in any of the following?

	Past	Present	Future
Cosmetic Surgery	YES / NO	YES / NO	YES / NO
Steroid Use	YES / NO	YES / NO	YES / NO
Male Cosmetics	YES / NO	YES / NO	YES / NO

How often do you exercise?

3 + days a week      1-2 days a week      A couple times a month      Rarely / Never

How often do you diet?

Always      Frequently      Occasionally      Never

How often do you workout?

3 + days a week      1-2 days a week      A couple times a month      Rarely / Never

Appendix B  
Body Shame Questionnaire

## BSQ

**INSTRUCTIONS:** Take a minute to stop and visualize in your mind what you look like from head to toe. Most people have at least some dissatisfaction with their body and would like to change some things if they could.

**Step 1:** For each body part if you would like to change it please circle YES. If you do not want to change the body part please circle NO.

**Step 2:** Indicate in the second column how strong your desire for change is. (From 1 to 10).

**Step 3:** Indicate in the third column how often you think about changing that part of your body. (From 1 to 10).

Please use the following scale for steps 2 and 3, but **ONLY** if you circle YES for a given body part:

**INTENSITY** (How strong is your desire for change?):

1	2	3	4	5	6	7	8	9	10
Very mild				Moderate				Very Intense	

**FREQUENCY** (How often do you think about changing that part of your body?):

1	2	3	4	5	6	7	8	9	10
Seldom				Occasionally				Very Often	

	Step 1		Step 2	Step 3
	<u>Desire for Change</u>		<u>Intensity</u>	<u>Frequency</u>
1. Complexion	YES	NO	_____	_____
2. Ears	YES	NO	_____	_____
3. Profile	YES	NO	_____	_____
4. Weight	YES	NO	_____	_____
5. Eyes	YES	NO	_____	_____
6. Height	YES	NO	_____	_____
7. Ankles	YES	NO	_____	_____
8. Waist	YES	NO	_____	_____
9. Arms	YES	NO	_____	_____
10. Chest/Pecks	YES	NO	_____	_____

INTENSITY ( How strong is your desire for change?):

1	2	3	4	5	6	7	8	9	10
Very mild				Moderate			Very Intense		

**FREQUENCY** (How often do you think about changing that part of your body?):

1	2	3	4	5	6	7	8	9	10
Seldom				Occasionally				Very Often	

	Step 1		Step 2	Step 3
	<u>Desire for Change</u>		<u>Intensity</u>	<u>Frequency</u>
11. Legs	YES	NO	_____	_____
12. General Appearance	YES	NO	_____	_____
13. Hips	YES	NO	_____	_____
14. Shoulders	YES	NO	_____	_____
15. Mouth	YES	NO	_____	_____
16. Neck	YES	NO	_____	_____
17. Teeth	YES	NO	_____	_____
18. Nose	YES	NO	_____	_____
19. Chin	YES	NO	_____	_____
20. Hair Texture	YES	NO	_____	_____
21. Body Build	YES	NO	_____	_____
22. Hair Color	YES	NO	_____	_____
23. Thighs	YES	NO	_____	_____
24. Face	YES	NO	_____	_____
25. Stomach	YES	NO	_____	_____
26. Butt	YES	NO	_____	_____
27. Calves	YES	NO	_____	_____
28. Eyebrows	YES	NO	_____	_____

29. Overall, how satisfied are you with your body's physical appearance?

1	2	3	4	5	6	7	8	9	10
Not at all satisfied			Somewhat Satisfied					Extremely Satisfied	

30. Overall, how ashamed are you of your body's physical appearance?

1	2	3	4	5	6	7	8	9	10
Not ashamed at all			A little ashamed				Very ashamed		

31. Compared to men your age, how do you compare?

1	2	3	4	5	6	7	8	9	10
Less than Average			About Average				Better than Average		

## Appendix C

### Objectified Body Consciousness Scale

## OBCS

Please indicate the degree to which you agree or disagree with each of the statements below, or indicate if the statement does not apply to you by filling in the NA circle. Please respond to all of the statements. (FILL IN THE CIRCLE)

1	2	3	4	5	6	7
Definitely	Strongly	Agree	Neutral	Disagree	Strongly	Definitely
	Agree				Disagree	Not
1. I rarely think about how I look.						
1	2	3	4	5	6	7
2. When I can't control my weight, I feel like something must be wrong with me.						
1	2	3	4	5	6	7
3. I think a person is pretty much stuck with the looks they are born with.						
1	2	3	4	5	6	7
4. I think it is more important that my clothes are comfortable than whether they look good on me.						
1	2	3	4	5	6	7
5. I feel ashamed of myself when I haven't made the effort to look my best.						
1	2	3	4	5	6	7
6. A large part of being in shape is having that kind of body in the first place.						
1	2	3	4	5	6	7
7. I think more about how my body feels than how my body looks.						
1	2	3	4	5	6	7
8. I feel like I must be a bad person when I don't look as good as I could.						
1	2	3	4	5	6	7
9. I think a person can look pretty much how they want to if they are willing to work at it.						
1	2	3	4	5	6	7
10. I rarely compare how I look with how other people look.						
1	2	3	4	5	6	7
11. I would be ashamed for people to know what I really weigh.						
1	2	3	4	5	6	7
12. I really don't think I have much control over how my body looks.						
1	2	3	4	5	6	7
13. During the day, I think about how I look many times.						
1	2	3	4	5	6	7

1	2	3	4	5	6	7
Definitely	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Definitely Not

14. I never worry that something is wrong with me when I am not exercising as much as I should.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

15. I think a person's weight is mostly determined by the genes they are born with.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

16. I often worry about whether the clothes I am wearing make me look good.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

17. When I'm not exercising enough, I question whether I am a good enough person.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

18. It doesn't matter how hard I try to change my weight, it's probably always going to be about the same.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

19. I rarely worry about how I look to other people.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

20. Even when I can't control my weight, I think I am an okay person.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

21. I can weigh what I'm supposed to when I try hard enough.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

21. I am more concerned with what my body can do than how it looks.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

23. When I'm not the size I think I should be, I feel ashamed.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

24. The shape you are in depends mostly on your genes.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

## Appendix D

### Muscular Attractiveness Scale



## MAS

Directions: Using the scale below, answer the following eight questions for each picture. Place your answers in the corresponding spaces below. Remember, there are no “right” or “wrong” answers. We just want your opinions.

1	2	3	4	5	6	7
not at all	somewhat	slightly	neutral	mostly	very	extremely

1. How attractive do you think women would find this man?
2. How friendly do you think women would find this man?
3. How muscular do you think women would find this man?
4. How likeable do you think women would find this man?
5. How healthy do you think women would find this man?
6. How smart do you think women would find this man?
7. How physically fit do you think women would find this man?
8. How physically fit do you think this man is?

Picture 1:  
 Question 1: \_\_\_\_\_  
 Question 2: \_\_\_\_\_  
 Question 3: \_\_\_\_\_  
 Question 4: \_\_\_\_\_  
 Question 5: \_\_\_\_\_  
 Question 6: \_\_\_\_\_  
 Question 7: \_\_\_\_\_  
 Question 8: \_\_\_\_\_

Picture 2:  
 Question 1: \_\_\_\_\_  
 Question 2: \_\_\_\_\_  
 Question 3: \_\_\_\_\_  
 Question 4: \_\_\_\_\_  
 Question 5: \_\_\_\_\_  
 Question 6: \_\_\_\_\_  
 Question 7: \_\_\_\_\_  
 Question 8: \_\_\_\_\_

Picture 3:  
 Question 1: \_\_\_\_\_  
 Question 2: \_\_\_\_\_  
 Question 3: \_\_\_\_\_  
 Question 4: \_\_\_\_\_  
 Question 5: \_\_\_\_\_  
 Question 6: \_\_\_\_\_  
 Question 7: \_\_\_\_\_

Question 8: \_\_\_\_\_

Picture 4:  
 Question 1: \_\_\_\_\_  
 Question 2: \_\_\_\_\_  
 Question 3: \_\_\_\_\_  
 Question 4: \_\_\_\_\_  
 Question 5: \_\_\_\_\_  
 Question 6: \_\_\_\_\_  
 Question 7: \_\_\_\_\_  
 Question 8: \_\_\_\_\_

Picture 5:  
 Question 1: \_\_\_\_\_  
 Question 2: \_\_\_\_\_  
 Question 3: \_\_\_\_\_  
 Question 4: \_\_\_\_\_  
 Question 5: \_\_\_\_\_  
 Question 6: \_\_\_\_\_  
 Question 7: \_\_\_\_\_  
 Question 8: \_\_\_\_\_

Picture 6:  
 Question 1: \_\_\_\_\_  
 Question 2: \_\_\_\_\_  
 Question 3: \_\_\_\_\_  
 Question 4: \_\_\_\_\_  
 Question 5: \_\_\_\_\_

Question 6: \_\_\_\_\_  
 Question 7: \_\_\_\_\_  
 Question 8: \_\_\_\_\_

Picture 7:  
 Question 1: \_\_\_\_\_  
 Question 2: \_\_\_\_\_  
 Question 3: \_\_\_\_\_  
 Question 4: \_\_\_\_\_  
 Question 5: \_\_\_\_\_  
 Question 6: \_\_\_\_\_  
 Question 7: \_\_\_\_\_  
 Question 8: \_\_\_\_\_

Picture 8:  
 Question 1: \_\_\_\_\_  
 Question 2: \_\_\_\_\_  
 Question 3: \_\_\_\_\_  
 Question 4: \_\_\_\_\_  
 Question 5: \_\_\_\_\_  
 Question 6: \_\_\_\_\_  
 Question 7: \_\_\_\_\_  
 Question 8: \_\_\_\_\_

## Appendix E

### Muscle Appearance Satisfaction Scale

## MASS

Please answer the following questions as they relate to you over the past four weeks. There are not right or wrong answers. Please answer each question honestly. All information that you provide will remain confidential.

\*Please fill in the circle that corresponds best with your answer.

- (1) Definitely Disagree
- (2) Mostly Disagree
- (3) Neither Agree Nor Disagree
- (4) Mostly Agree
- (5) Definitely Agree

1. When I look at my muscles in the mirror, I often feel satisfied with my current muscle size.

1                      2                      3                      4                      5

2. If my schedule forces me to miss a day of working out with weights, I feel very upset.

1                      2                      3                      4                      5

3. I often ask friends and/or relatives if I look big.

1                      2                      3                      4                      5

4. I am satisfied with the size of my muscles.

1                      2                      3                      4                      5

5. I often spend money on muscle building supplements.

1                      2                      3                      4                      5

6. It is OK to use steroids to add muscle mass.

1                      2                      3                      4                      5

7. I often feel like I am addicted to working out with weights.

1                      2                      3                      4                      5

8. If I have a bad workout, it is likely to have a negative effect on the rest of my day.

1                      2                      3                      4                      5

9. I would try anything to get my muscles to grow.

1                      2                      3                      4                      5

10. I often keep working out even when my muscles or joints are sore from previous workouts.

1                      2                      3                      4                      5

\*Please fill in the circle that corresponds best with your answer.

- (1) Definitely Disagree
- (2) Mostly Disagree
- (3) Neither Agree Nor Disagree
- (4) Mostly Agree
- (5) Definitely Agree

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 11. I often spend a lot of time looking at my muscles in the mirror.                 | 1 | 2 | 3 | 4 | 5 |
| 12. I spend more time in the gym working out than most others who work out.          | 1 | 2 | 3 | 4 | 5 |
| 13. In order to get big, one must be able to ignore a lot of pain.                   | 1 | 2 | 3 | 4 | 5 |
| 14. I am satisfied with my muscle tone/definition.                                   | 1 | 2 | 3 | 4 | 5 |
| 15. My self-worth is very focused on how my muscles look.                            | 1 | 2 | 3 | 4 | 5 |
| 16. I often ignore a lot of physical pain while I am lifting in order to get bigger. | 1 | 2 | 3 | 4 | 5 |
| 17. I must get bigger muscles by any means necessary.                                | 1 | 2 | 3 | 4 | 5 |
| 18. I often seek reassurance from others that my muscles are big enough.             | 1 | 2 | 3 | 4 | 5 |
| 19. I often find it difficult to resist checking the size of my muscles.             | 1 | 2 | 3 | 4 | 5 |

## Appendix F

### Muscle Dysmorphia Inventory

## M D I

**INSTRUCTIONS:** Please respond to each of the following statements. Circle response choice that best describes you.

<i>STRONGLY</i>	<i>SOMEWHAT</i>	<i>SLIGHTLY</i>	<i>SLIGHTLY</i>	<i>SOMEWHAT</i>	<i>STRONGLY</i>
DISAGREE	DISAGREE	DISAGREE	AGREE	AGREE	AGREE
1	2	3	4	5	6

1. When I see my reflection in the mirror or a window, I feel badly about my body size or shape.  
1                      2                      3                      4                      5                      6
2. Working out causes problems in my job.  
1                      2                      3                      4                      5                      6
3. I eat specific foods at specific times throughout the day in order to gain muscle mass.  
1                      2                      3                      4                      5                      6
4. When I see muscular men, it makes me feel badly about my body shape or size.  
1                      2                      3                      4                      5                      6
5. I am inclined to continue to work out when I am sick.  
1                      2                      3                      4                      5                      6
6. I am ashamed of my body shape or size.  
1                      2                      3                      4                      5                      6
7. I have difficulty maintaining relationships because of thoughts about my body.  
1                      2                      3                      4                      5                      6
8. I am inclined to continue to work out when I am injured.  
1                      2                      3                      4                      5                      6
9. I have difficulty maintaining relationships because of thoughts of working out.  
1                      2                      3                      4                      5                      6
10. I believe bad things happen in my life when I do not have a specific level of muscularity.  
1                      2                      3                      4                      5                      6
11. Working out causes problems in my romantic relationships.  
1                      2                      3                      4                      5                      6
12. I believe I am more muscular than others.  
1                      2                      3                      4                      5                      6
13. I feel badly when I do not get to work out.  
1                      2                      3                      4                      5                      6
14. I eat by myself.  
1                      2                      3                      4                      5                      6
15. I am inclined to continue to work out against doctor's orders.  
1                      2                      3                      4                      5                      6
16. I am inclined to participate in activities that require wearing swimsuits.  
1                      2                      3                      4                      5                      6
17. I do not believe I am as muscular as others.  
1                      2                      3                      4                      5                      6

<i>STRONGLY</i> DISAGREE	<i>SOMEWHAT</i> DISAGREE	<i>SLIGHTLY</i> DISAGREE	<i>SLIGHTLY</i> AGREE	<i>SOMEWHAT</i> AGREE	<i>STRONGLY</i> AGREE	
1	2	3	4	5	6	
18. I want to be more muscular than I currently am.	1	2	3	4	5	6
19. I think I look better when I have large muscles.	1	2	3	4	5	6
20. Working out causes problems in my friendships.	1	2	3	4	5	6
21. I am muscular enough.	1	2	3	4	5	6
22. If I could increase my muscle mass, I would.	1	2	3	4	5	6
23. I have difficulty focusing on schoolwork because of thoughts about my body.	1	2	3	4	5	6
24. I am not muscular enough.	1	2	3	4	5	6
25. Others feel that I am way too focused on my body shape or size.	1	2	3	4	5	6
26. I have difficulty focusing on schoolwork because of thoughts of working out.	1	2	3	4	5	6
27. I feel insecure about my body.	1	2	3	4	5	6
28. I use legal or illegal supplements (creatine or anabolic steroids) to help develop my muscles.	1	2	3	4	5	6
29. I avoid participating in activities that require minimal clothing.	1	2	3	4	5	6
30. The less clothing I wear the more anxious I become.	1	2	3	4	5	6
31. I eat a large amount of protein in order to increase my muscularity.	1	2	3	4	5	6
32. I feel anxious when I deviate from my diet.	1	2	3	4	5	6
33. I believe bad things happen to me when I do not keep my workout schedule.	1	2	3	4	5	6
34. I feel anxious when I miss a workout.	1	2	3	4	5	6

## Appendix G

### Muscular & Average Photographs

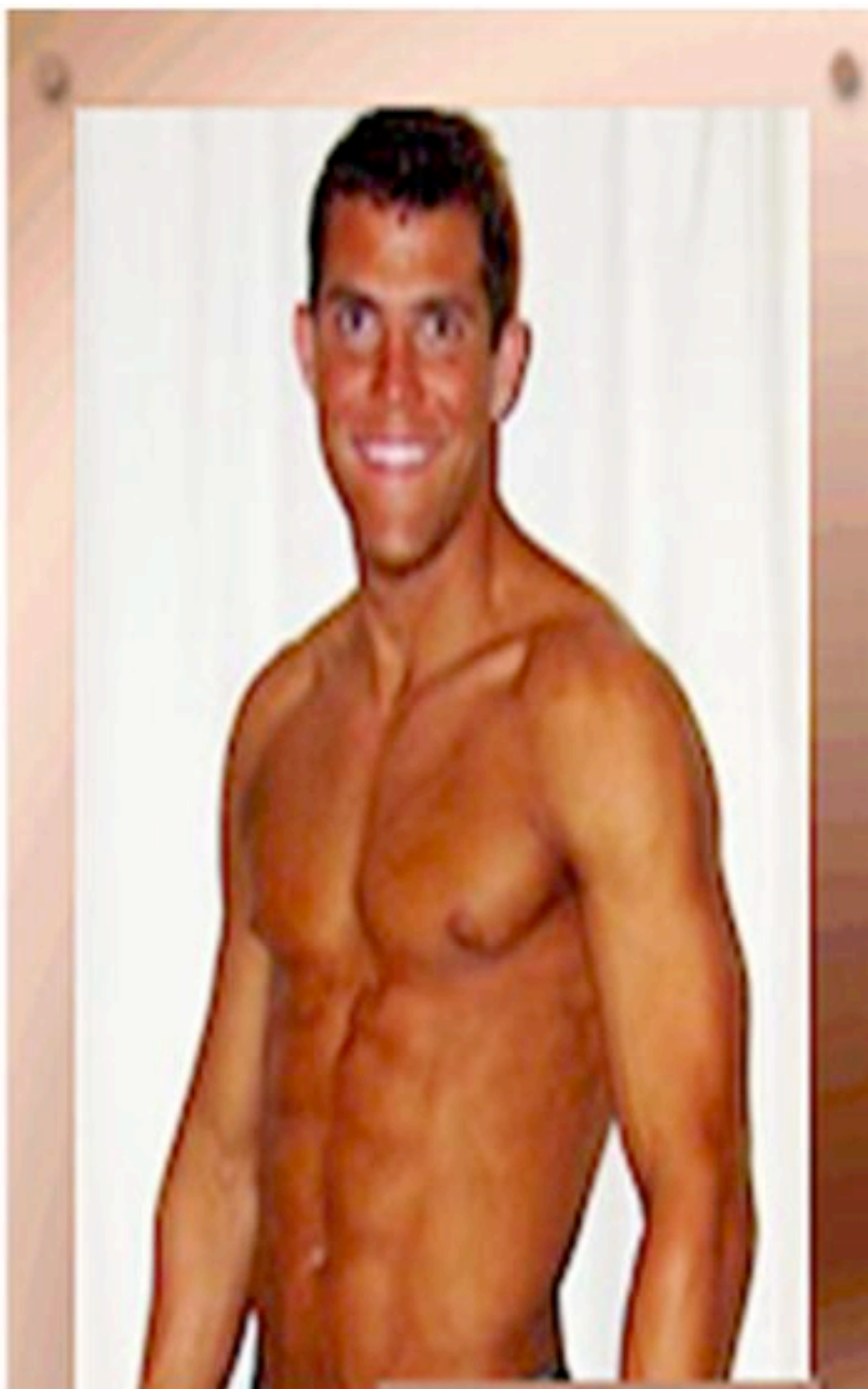




MUSCULAR PHOTOGRAPH 1



MUSCULAR PHOTOGRAPH 2



MUSCULAR PHOTOGRAPH 3

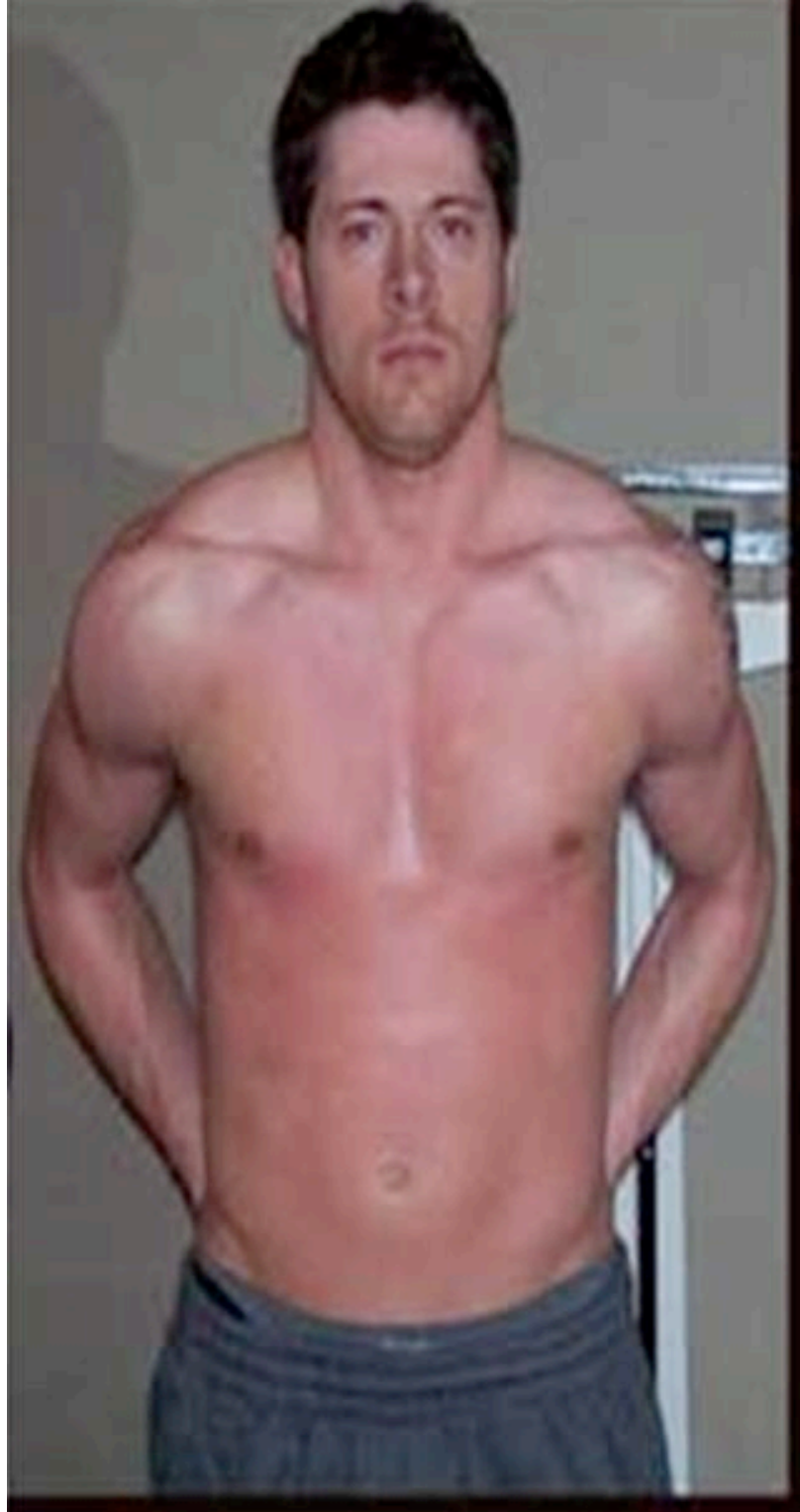


MUSCULAR PHOTOGRAPH 4





MUSCULAR PHOTOGRAPH 5



MUSCULAR PHOTOGRAPH 6



MUSCULAR PHOTOGRAPH 7



MUSCULAR PHOTOGRAPH 8





AVERAGE PHOTOGRAPH 1



AVERAGE PHOTOGRAPH 2



AVERAGE PHOTOGRAPH 3

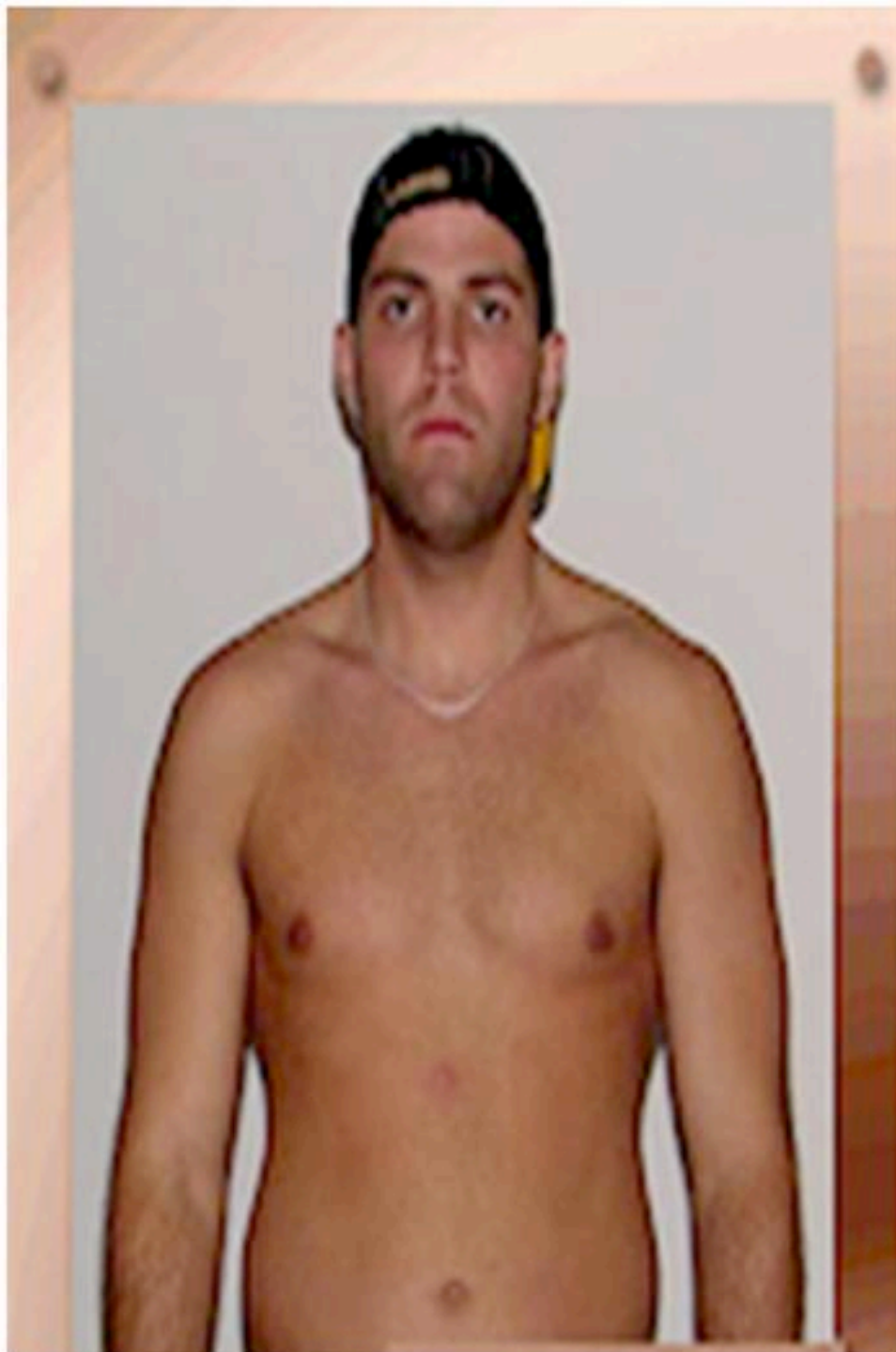


AVERAGE PHOTOGRAPH 4



AVERAGE PHOTOGRAPH 5





AVERAGE PHOTOGRAPH 6



AVERAGE PHOTOGRAPH 7



AVERAGE PHOTOGRAPH 8



## Appendix H

### 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](mailto:Paul.Mooney@wku.edu)

In future correspondence, please refer to HS10-010, August 4, 2009

Samantha Wilson  
c/o Dr. Grieve  
Psychology  
WKU

Samantha Wilson:

Your research project, *The Effects of Picture Presentation on Male Body Shame and Muscle Dysmorphia*, 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 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 Expedited Review Level until July 31, 2010.

2. Please note that the institution is not responsible for any 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 Protections regulations.

Sincerely,

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

cc: HS file number Wilson HS10-010

Appendix I  
Informed Consent

INFORMED CONSENT DOCUMENT  
Evaluation of Pictures

You are being asked to participate in a study that will evaluate photos. *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 that is collected from you. This study is being conducted through Western Kentucky University. The University requires that you give your signed agreement to participate in this study. You must be at least 18 years of age to participate.

At any time you may ask the researcher any questions you may have. If you then decide to participate in the study, please sign on bottom of this form in the presence of the person who explained the study to you. You should be given a copy of this form to keep.

1. **Nature and Purpose of the Project:** This study is examining people's perception of pictures.
2. **Explanation of Procedure:** During participation you will be asked to complete a section about your age, education, ethnicity, gender, and your views on exercise, dieting, cosmetics, cosmetic surgery, and steroids. Also, you will be asked to complete four short measures including rating some pictures. This survey should take about 40 - 50 minutes to complete.
3. **Discomfort and Risks:** The risks to participation appear to be small. There is always a slight chance that any item could bring about problems. Please let the researcher know if any item 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 your instructor). Your instructor should offer alternate forms of extra credit. Other benefits include a sense of having helped contribute to science and a sense of pride or accomplishment for helping a fellow student. Benefits to science include providing data that will be beneficial to this area of study.
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, and will be presented as averages, which makes it impossible to identify individual participants.
6. **Refusal/Withdrawal:** You do not have to participate in this study. Such a refusal 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) 754-4417, Monday-Friday from 9:00 am until 4:00 pm.

*You also understand that it is not possible 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.*

\_\_\_\_\_  
Printed Name of Participant

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

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  
Mr. Paul Mooney, Human Protections Administrator, TELEPHONE: (270) 745-2321

Appendix J  
Debriefing Statement

### Debriefing Statement

Thank you for participating in this research study. We are interested in the relationships that coexist between picture presentation, body image, and experienced shame. We have predicted that men who view pictures of muscular men will experience a higher degree of body shame than will men who view pictures of average men. If you have any questions regarding the research or if you would like a final copy of this research project, feel free to contact Dr. Rick Grieve at (270) 745-4417 or at the Department of Psychology, Western Kentucky University, 1 Big Red Way, Bowling Green, KY 42101. Final copies will not be available until after December 1, 2009.