

Assessing Male Body Image: Development And Validation Of The Appearance Inventory For Men (aim)

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ASSESSING MALE BODY IMAGE:
DEVELOPMENT AND VALIDATION OF THE APPEARANCE INVENTORY FOR MEN
(AIM)

by

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M.S. University of Central Florida, 2002

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ABSTRACT

Despite evidence suggesting that appearance dissatisfaction among men is on the rise, a void in appropriate forms of body image assessment for males remains. The current study reviews the literature on male body image, identifying the shortcomings and limitations of prior research, and introduces a psychometrically sound, male-specific body image assessment. An initial item-generation study was used to poll 253 males to inquire about their concerns, emotions, behaviors, and related body image topics to be sorted and synthesized into items for scale inclusion. The newly developed Appearance Inventory for Men (AIM) was then administered to 330 males and submitted to exploratory factor analyses, revealing a relatively stable three-factor structure. Weight-Focus (WF), Muscle Focus (MF), and Appearance Motivation (AM) factors emerged, all with good internal consistency and convergent, discriminant, and construct validity. Two additional psychometrically sound subscales were included in the final AIM that assess body area satisfaction for men (Key Attributes of Muscularity; KAM) and the common Strategies for Appearance Management (SAM). Future research and clinical implications are discussed, as are the directions for continued validation of this unique, yet much needed male-specific body image assessment tool.

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INTRODUCTION

Throughout history, the importance of physical appearance has been highly stressed and valued, especially for women. Women's endless struggle to meet a physical ideal has been reinforced by the media and, in turn, is linked to the development and maintenance of body image disturbance and disordered eating (Twamley & Davis, 1999). A majority of research has shown that, whereas females are generally dissatisfied with their bodies, males tend to be happier with their body weight (Leon, Carroll, Chernyk, & Finn, 1985), shape (Fallon & Rozin, 1985), and overall appearance (Pliner, Chaiken, & Flett, 1990; Rozin & Fallon, 1988). For this reason, the study of body image disturbance and eating disorders, and their relationship to psychological health and functioning have been long addressed as female-specific concerns (Rodin, Silberstein, Striegel-Moore, 1985; Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999).

More recently, however, researchers have argued that men, too, experience weight and shape concerns, though "their plight has been eclipsed by societal attention to women with weight disorders" (Mickalide, 1990, p. 30). Some studies suggest that, though it may manifest itself in different ways, rates of body dissatisfaction in males are comparable to that of females (Davis & Cowles, 1991; Drewnowski & Yee, 1987), with reports of dissatisfaction reaching as high as 95% (Mishkind, Rodin, Silberstein, Striegel-Moore, 1986). As for females, the importance and value of appearance for males in both social and business environments is noted in several studies that report the benefits of good looks and athleticism. Mazur (1984) noted that facial dominance, described as a sharp chin, heavy brow ridges, and deep set eyes, among military cadets was a key predictor in future military success and rank. A growing literature has emerged with a focus on issues of primary concern to men, including muscularity, height, and baldness (Andersen, Cohn, & Holbrook, 2000; Pope, Phillips, & Olivardia, 2000). This

pioneering research challenges the conceptualization of body image disturbance as a uni-gender affliction, suggesting that males have slowly succumbed to societal pressures of idealism (Fallon, 1990) and have a greater prevalence of body dissatisfaction and related negative effects than previously reported (Andersen, Cohn, & Holbrook, 2000; Cash, 1997; Drewnowski, Kurth, & Krahn, 1995). In an age where muscularity has become synonymous with masculinity, there is a growing and understandable concern among men regarding their physical appearance, making them equally vulnerable targets of the diet and health-related campaigns that have plagued women for decades.

Just as for females, the role of appearance impacts and shapes the lives of men, but in different ways. Depending on their level of adherence to socially sanctioned standards of attractiveness, men are now susceptible to a host of appearance-related physical and psychological stressors that were once considered unique to females. The current paper is intended to provide a thorough review and synthesis of the growing male body image literature, addressing the trends, risk factors, and limitations of recent studies. The absence of male-specific measures to accurately assess men's concerns will be discussed, challenging the current reports of male body dissatisfaction and suggesting future directions for this rapidly developing area.

The 21st Century Male

As suggested earlier, researchers are just beginning to scratch the surface of the young field of male body image and the associated concerns that may be unique to men. In fact, prior to 1990, fewer than 400 body image-related studies included males over a span of 60 years. Since then, the past 12 years of body image research have produced over 1000 publications that

include men and their appearance concerns. Like in the female literature, many of these concerns are reportedly associated with levels of appearance dissatisfaction and mood disturbance that often stem from self-to-ideal comparisons. Unlike the female ideal, which over the past several decades has undergone a metamorphosis from a robust, curvaceous shape into a lean and athletic, yet voluptuous image, the male body idealized by popular culture has remained static as a tall, lean, and muscular physique, though this image has become significantly more mesomorphic over time. Although not considered ideal, research by Kolbe and Albanese (1996) suggest that being an overweight male is more acceptable in society than being an underweight male. The authors note how a description of “thin and frail” carries a negative connotation of weakness, powerlessness, and incompetence and is in direct contrast with the essence of masculinity. In their recent examination of Playgirl magazine centerfolds over the past 25 years, Leit, Pope, and Gray (2001) noted an increase in muscle density and leanness among male models, suggesting a hypermesomorphic male ideal that is virtually unattainable for most men to obtain naturally (Leit, Gray, & Pope, 2002). Pope and colleagues even reported a progressive enlargement of muscle tone and overall body size among action toys that exceed bodybuilding physiques and defies natural attainability (Pope, Olivardia, Gruber, & Borowiecki, 1999). This image has transcended reality, as portrayed by today’s wrestling heroes and action movie stars, and is now accepted as the male ideal for which the average man is somehow to aspire. Based on these studies, it seems that culture places a premium on the body shape or physique of men, as opposed to overall weight, per se.

Rates of Body Dissatisfaction Among Males

Although an array of studies have recently been published that investigate sociocultural influences and trends in male body image, many of these early reports stem from magazine surveys, content analyses, or other forms of anecdotal research that often lack the credibility and clinical usefulness of sound experimental research. A review of the past 10 years of the literature revealed that over 92% of body image studies that included men were correlational in nature and only 2 included an all-male experimental design. Although many of these studies offer better insight into male-specific concerns about appearance and weight change techniques, the majority of established body satisfaction questionnaires and rating scales were normed on females and designed to assess body dissatisfaction and eating concerns among women. For example, the Eating Disorders Inventory (EDI; Garner, Olmstead, & Polivy, 1983) and the Eating Attitudes Test (EAT; Garner & Garfinkel, 1979) have been used in over 60 studies with men since 1990 as measures of pathological eating and dieting assessments. These scales address diet and restriction-related change techniques, as well as satisfaction with body sites that are typically not of primary concern to men. Such studies may be misleading if used with men in that they assume males' satisfaction with weight and non-muscle body sites, coupled by an absence of eating disorder symptomatology, are synonymous with positive body image and psychological adjustment. In actuality, it appears that the majority of past research using female-intended measures has failed to detect actual areas of concern for men because they did not address appearance issues pertinent to men.

The difficulty in assessing male body image concerns and weight change techniques is evident in recent research. Since 1990, nearly 30% of the studies including men have used newly developed assessment measures due to an absence of empirically validated questionnaires

and surveys for men. Many of these tools assess men's appearance perceptions of themselves and others, their attitudes towards dieting, exercise, and cosmetic surgery, body part satisfaction of male-relevant body sites, and have made attempts to screen for clinical symptomatology and other maladaptive patterns of behavior. Although studies using these original surveys report robust results, the use of many of these newly developed and unvalidated tools remains questionable. Likewise, a number of recent studies have adapted previous versions of female-normed measures for use with men, again potentially compromising the psychometric properties of the scales and calling the results into question. Although these adaptations appear not to be arbitrary (e.g., replacing "concerns regarding breasts" to "concerns regarding chest"), modifying a female intended measure for male use, and subsequently altering adult male terminology and examples for use with adolescent boys leads to questionable validity. Though this exploratory research has been crucial in detecting appearance concerns among men that were previously uninvestigated, continuing to draw inferences from these studies without more reliable assessment would ignore the basic principles of research and potentially fail to capture the true nature of male body image.

Perhaps a perfect example of such exploratory research findings that have been widely cited as factual are the prevalence rates concerning gender differences in body dissatisfaction stemming from a series of three *Psychology Today* surveys that span the past three decades (Berscheid, Walster, & Bohrnstedt, 1973; Cash, Winstead, & Janda, 1986; Garner, 1997). Though these reports suggest increasing rates of dissatisfaction among both males and females over the past 25 years, with females' level of dissatisfaction far exceeding that of males in nearly every physical attribute, Cash (2002) astutely questions the validity of making cross-survey inferences using these data. The fact that reports of male body image disturbance have

drastically increased are not necessarily indicative of increasing body dissatisfaction among men, but could quite possibly indicate an increased awareness among men regarding their appearance that previously went unnoticed. In addition to the often misunderstood and misstated research claiming an increase in male body image disturbance, several methodological differences, such as survey presentation and directions, selection process for inclusion of analyses, and general formatting and wording differences, may compromise the ability to draw conclusions from these studies (Cash, 2002a). Further, the results of each individual study should be interpreted with caution given the sampling confounds stemming from a self-selected pool of willing *Psychology Today* readers.

Given today's virtually unattainable male prototype and the increasing distance of the average male from his aspired ideal body image, a surge in reports of body dissatisfaction and body image disturbance among men has emerged from the literature that refute earlier claims of a general sense of content among men regarding their appearance. Due to measurement limitations of today's body image questionnaires, most researchers have relied upon silhouette rating scales or contour drawings to make conclusions about actual-ideal body discrepancies in men. In fact, nearly 20% of the studies investigating male body image concerns over the past decade have used either the Figure Rating Scale (7.9%; Stunkard, Sorenson, & Schulsinger, 1983) or some other variation of it (11.9%). For example, Fallon and Rozin (1985) asked male participants to rate their current shape, ideal shape, and the shape women would most prefer, and found no significant discrepancy among these images. The authors concluded that these identical perceptions help to preserve males' body satisfaction and relate to lower incidences of eating pathology among men. Although these findings were later replicated (Lamb, Jackson, Cassiday, & Priest, 1993; Tiggemann, 1992; Zellner, Harner, & Adler, 1989), Grogan (1999)

accurately noted that such studies based their conclusions on average scores, which has the effect of combining males who want to lose weight with men who want to gain weight and thereby cancel out the true actual-to-ideal discrepancies. Mishkind et al. (1986) avoided this measurement problem in their study by taking into account both desires to increase and decrease body size and reported that 75% of their male participants expressed body dissatisfaction in some respect. Later studies supported this increased prevalence of male body dissatisfaction, noting that men are as likely to express a desire to be heavier as thinner (Silberstein, Striegel-Moore, Timko, & Rodin, 1988) and often overestimate the extent to which others perceive large physiques as ideal (Cohn & Adler, 1992).

This previously unseen pattern of dissatisfaction has been further studied in the growing male literature. In a brief survey developed to assess body image in incoming freshmen during college orientation, Drewnowski and Yee (1987) noted that while 85% of females desired to lose weight, men gave conflicting views of wanting to lose weight (40%) and gain weight (45%), both of which suggest dissatisfaction with their appearance. Similar findings have been reported via survey data that indicate nearly equal numbers of males wanting to lose weight as those wanting to gain weight, with more modest estimates of dissatisfaction between 50 to 70% (Drewnowski, Kurth, & Krahn, 1995; Furnham & Calnan, 1998). In fact, one study reported significantly more dissatisfaction among men than women regarding their weight given the bidirectionality of men's weight concerns (Abell & Richards, 1996). Raudenbush and Zellner (1997) gave further evidence of concern when they reported that of the 50% of their male participants who expressed body dissatisfaction, 71% of them were within normal weight limits. While these rates of body dissatisfaction among men appear relatively large and consistent, an examination of the various forms of measurement in these studies again raises potential threats to

the accuracy of these reports. In the absence of appropriate measurement to assess male body image, these studies, like most others, have based their findings on simple and unvalidated surveys designed for that particular study or inappropriately used female-standardized and -focused instruments. Although these rates may resemble the true scope of male body image dissatisfaction, researchers can undoubtedly substantiate these findings with measures suitable and valid for men.

Accepting the general findings that suggest an apparent split between men wanting to lose weight and decrease size versus those wanting to gain weight and bulk up, researchers have recently noted that behaviors such as dieting and more pathological forms of weight control (excessive exercise, purging) as well as overeating and use of supplements may be indicative of body dissatisfaction among men (Drewnowski, Kurth & Krahn, 1995; Drewnowski & Yee, 1987; McCabe & Ricciardelli, 2001). Although many men and women express a desire to lose weight and be thin, a drive for weight gain is also experienced by men pursuing today's muscular male ideal. This presents a double-edged sword for men who are trying to balance their weight while trying also to attain a muscular, mesomorphic physique.

A drive towards muscular perfection has been seen in middle and high school boys who are encouraged to be strong and athletic. Furnham and Calnan (1998) reported an equal number of dissatisfied high school boys due to being overweight and being underweight. The authors reported that exercising for tone, attractiveness, and health/fitness was related to measures of disordered eating, as measured by the Eating Disorders Inventory (EDI; Garner et al., 1983). The EDI was initially developed to assess body image concerns and eating pathology in women, though the authors added items to the body dissatisfaction scale to address body sites of concern to men, as well as an additional "drive for bulk" scale that addressed males' desire to become

bigger and gain weight. Similarly, Parks and Read (1997) used the Eating Attitudes Test (Garner, Olmstead, Bohr, & Garfinkel, 1982), normed to measure symptoms of anorexia in females, to report that male runners were more preoccupied with food and had a greater tendency towards bulimic symptomatology than male football players. Using the Body-Image Ideals Questionnaire (Cash & Szymanski, 1995; Szymanski & Cash, 1995), Muth and Cash reported greater self-ideal discrepancies among women than men regarding body proportions, appearance, tone, complexion, and coordination, among several others, suggesting more dissatisfaction among women (1997). Although the findings of these studies were consistent with their hypotheses and previous research, as noted earlier, the alteration of these scales and use with male populations may compromise the validity of the scales themselves and again raises the need for well-developed and validated scales to specifically address male body image concerns.

In a series of studies by McCabe, Ricciardelli, and colleagues investigating the sociocultural influences on body image and body change strategies among young males, the authors have developed and validated a Body Image and Body Change Inventory to assess strategies for both increasing and decreasing body size. Ricciardelli, McCabe, and Banfield (2000) interviewed forty adolescent males regarding their body satisfaction, body change techniques, and sociocultural influences on body image and noted that over one-third of the boys recognized the influence of family, friends, and sociocultural pressures on their body satisfaction and change methods. Further, the authors reported that feedback from females (mother, female friends) had a positive influence on body image, whereas feedback from other males influenced body change methods, most notably to increase weight and muscle tone (McCabe & Ricciardelli, 2001). In their latest study, the authors reported that the importance a boy places on his muscle size is most influenced by sociocultural influences and feedback from his best male friend,

suggesting the powerful impact of social comparison and media exposure to ideal images (McCabe & Ricciardelli, 2003). Through the growing literature, it is fairly evident that body image concerns among men are not only gaining awareness, but also may be growing due to increased sociocultural pressures regarding appearance. Efforts to research male-specific issues in the field of body image and in the development of assessment tools to accurately assess these concerns are clearly needed.

Sociocultural Influences on Male Body Image

Sociocultural theories of body image (Fallon, 1990; Heinberg, 1996) note the influence of culture-wide appearance ideals that instigate comparisons with others and encourage efforts to meet expectations of beauty at any cost. Proponents of this theory suggest that body image disturbance results from undue influence of unrealistic ideals of attractiveness transmitted through the media. Research has demonstrated that expectations of beauty are often internalized and held as the norm for which to strive (Higgins, 1987; Stice, 1994). Against this backdrop of social ideals, individuals must make assessments of their own physical attributes and often fall short in this upward comparison process. This form of self-ideal discrepancy has been found to be among the strongest predictors of the development and maintenance of body image disturbance and eating disorder symptomatology (Heinberg, 1996; Heinberg & Thompson, 1992; Thompson et al., 1999).

Historically, messages of appearance were transmitted through art, music, and literature (Thompson et al., 1999) in ways that romanticized unattainable images (Freedman, 1986). Although the influence of peers, parents, and partners on appearance has been widely cited (Kearney-Cooke, 2002; Thompson & Heinberg, 1999), the most prominent force in forming,

strengthening, and activating gender stereotypes has been the mass media (Andersen & DiDomenico, 1992; Lavine, Sweeney, & Wagner, 1999). Unlike past vehicles for the appearance ideal, today's media do not make the distinction between glorified fiction and reality, leaving society to regard such images as realistic representations of beauty and appropriate comparison targets (Agliaia & Tantleff-Dunn, 2004; Jasper, 1993). Some studies argue that the media is not responsible for creating appearance ideals, rather it gives people what they already want and reflects the desires of the greater public (Raphael & Lacey, 1992; Silverstein, Perdue, Peterson, & Kelly, 1986). Others suggest that the media often promotes the ideal appearance and instigates maladaptive eating and exercise habits (Andersen & DiDomenico, 1992, Striegel-Moore, Silberstein, & Rodin, 1986). In reality, the relationship between the mass media and appearance ideals is "complex", "bi-directional", and defined by a host of moderating variables, including sexual orientation, family, peers, and athletics (Thompson et al., 1999, p.94).

Although mass media is not solely responsible for creating and promoting the thin ideal, television and print media of today are so pervasive in our society that they are among the most influential means of communicating and exacerbating the importance of socially desirable attributes (Raphael & Lacey, 1992). These forms of media compound the potential impact of making self-ideal comparisons by presenting their often airbrushed images as real, resulting in culturally ideal, yet manipulated figures that are often the sum of many models' best parts (Stormer & Thompson, 1996). Despite the risks associated with exposure to these images, which often go unnoticed, the media has inspired men to work out, diet, and use muscle enhancement products for the purposes of decreasing body fat, increasing muscle mass, and coming one step closer towards meeting their ideal (Kennedy, 2000).

Print Media

Given the astronomical rates of magazine subscriptions today, which are estimated in the tens of millions, body image researchers have used print media as a robust source of information and evidence that traces the evolution of appearance ideals and gives indication of future trends. A majority of print media subscriptions are to magazines loaded with appearance-related advertisements and articles suggesting ways to build, cut, trim, eat, and dress your way into a new appearance. These appearance messages transcend age, ethnicity, and gender, with some reports suggesting that as high as 83% of teenage girls read fashion magazines (Levine & Smolak, 1996; Cusumano & Thompson, 1997).

Paralleling the trend in increased body image awareness among men, today's popular men's magazines, such as *Men's Health* and *Men's Fitness*, emphasize an active and healthy lifestyle that strives towards physical prowess and sculpted perfection. Based on media-related interviews with young men, Gill, Henwood, and McLean (2000) rejected the notion that today's advertisements portraying the male ideal are viewed as aspirational, suggesting that men suffer social and emotional consequences as a result of consistent exposure to these images. Males may be surrendering to what Pope, Phillips, Olivardia (2000) have coined an "Adonis Complex" of attractiveness and are increasing their efforts to build muscle and stay lean. Trend analyses spanning 30 years of popular men's magazines have revealed a consistent increase in messages concerning physical activity and health, similar to trends seen in females' print media, with greater emphasis on muscle growth and physique and a decreasing emphasis on weight and general beauty for men (Petrie et al., 1996). Kolbe and Albanese (1996) found that male models in men's magazines were overwhelmingly mesomorphic, with ectomorphic body types as the least portrayed. The researchers commented on the increased density and leanness of the men

portrayed in male-audience magazines, stating, “Few of the men had endomorphic bodies (soft and round), and even fewer had ectomorphic bodies (thin and frail),” (1996, p.11). In a content analysis of men’s magazines, Andersen and DiDomenico (1992) noted significantly more advertisements and articles promoting body shape change among men than weight loss alone, indicating the print media as a major source of persuasion for men to focus on shape. The authors further suggested a dose-response relationship between cultural reinforcements for thinness and the prevalence rates of eating disorders, explaining that males have lower incidences of eating disorder symptomatology because they are encouraged to be shape-focused rather than weight-focused. A similar study reported an increase in weight and health-related articles printed in male fashion magazines between 1980 and 1991, again suggesting an increased emphasis on male appearance and shape (Nemeroff, Stein, Diehl, & Smilack, 1994).

While these correlational studies offer insight into the profound effect of the media on male body image, many opt to inquire about exposure to media sources and make inferences about its effect on body satisfaction and mental health based on these self-reports. For example, Morry and Staska (2001) found that men who subscribed to fitness magazines were more dissatisfied with their bodies and had more eating disturbance than men who self-reported that they did not read similar magazines. Although interesting, these findings assume accuracy in the self-reported degree of media exposure by its participants and are often burdened by various confounds associated with non-experimental research. These correlational studies lack the experimental control and manipulation needed to make strong causal inferences about the relationship between body image and the media, yet are often referenced as factual and dominate the literature. In fact, similar types of correlation studies comprise over 96% of all media-related research on males and body image.

Although the few true experiments that do exist suggest “a cultural shift in attitudes” towards an increasingly lean and muscular male body ideal (Fallon, 1990, p.81), they too are often hampered by measurement limitations and threats to validity that may result in spurious conclusions. Ogden and Munday (1996) reported that men exposed to pictures of thin male magazine models became less satisfied with their bodies, whereas men who viewed pictures of heavy male models showed improved body satisfaction following exposure. Satisfaction was assessed using visual analogue scales that asked about appearance, silhouettes to measure self-ideal discrepancies, and a body size estimation task. Using visual analogue scales for mood and an unpublished figure rating scale, Hausenblas, Janelle, Gardner, & Hagan (2003) recently reported that men with high body satisfaction experienced less mood disturbance following exposure to ideal male slides than men who were dissatisfied with their bodies. Both groups, however, expressed lower body satisfaction after exposure to these male model images. Further, the authors noted an increase in depression, anger, and body dissatisfaction among both groups of men after viewing slides of their own physiques. Similarly, using a computerized test of body satisfaction, Leit et al. (2002) found that males briefly exposed to images of muscular men exhibited significantly greater self-to-ideal body discrepancies than those exposed to neutral advertisements. Other studies have supported this finding, suggesting that the media is a key predictor of attitudes towards personal thinness and dieting in men (Harrison & Cantor, 1997).

Inconsistent with these findings, Kalodner (1997) found that exposure to images of ideal male models did not evoke anxiety or heightened levels of self-consciousness, refuting past research citing the media’s role in affecting body image attitudes and emotional state. Similarly, Barta (2002) recently reported that exposure to ideal magazine images of men did not negatively influence men’s affect, self-esteem, body satisfaction, or their endorsement of cultural standards

of attractiveness. These inconsistencies in experimental findings have not been addressed and may be attributed to methodological and measurement confounds. As described earlier, the absence of measures designed to assess male-specific concerns has left researchers either altering previously existing female-targeted and normed tools or using newly developed instruments that have yet to be validated.

Television

Despite the growing attention among men's concerns in the body image arena, less than fifteen studies have included men in their specific investigation of print media effects and trends in body image, only five of which (Barta, 2002; Hausenblas et al., 2003; Kalodner, 1997; Leit et al., 2002; Ogden & Munday, 1996) have been experimental and studied the impact of magazine photograph exposure on male body satisfaction. A review of the literature on male body image and television exposure revealed even fewer studies, with only three experimental designs out of ten total studies in over 20 years. The research suggests that television and film programs overwhelmingly underrepresent the population rates of obesity (Fouts & Vaughan, 2002). Gerbner and colleagues noted that fewer than 6% of male actors on prime time television were obese, compared to population rates of obesity of over 32% among men (Gerbner, Gross, Morgan, & Signorielli, 1981), which likely sends a message of unacceptance and shame to overweight men. Although some studies suggest that overweight male characters tend to make negative references about their appearance in order to gain audience reactions and encourage others to ridicule negative stereotypes of obesity (Fouts & Vaughan, 2002), other studies suggest that obese males on television are positively stereotyped as being powerful and authoritarian, and though underrepresented, they are often among the most popular characters portrayed on

television (Mickalide, 1990). Regardless of how overweight males are perceived on television, their underrepresentation is consistent with print media, suggesting an obvious preference for the hard-bodied males who rule prime time television and feature films that reach billions of viewers daily. Pope and colleagues draw comparisons between yesterday's film stars, including Wayne, Grable, and Peck, versus today's heroes, Schwarzenegger, Stallone, and van Damme (Pope et al., 2000). From athletes participating in the World Wrestling Federation, National Football League, and National Basketball Association, to MTV entertainers, to every day sitcoms and reality TV shows, the ideal muscular physique permeates nearly every genre of television.

Similar to the print literature, television research and experimentation investigating male body image concerns and the impact of exposure on men is extremely limited. In the first television study that investigated male body image concerns, Lavine et al. (1999) found that men exposed to advertisements portraying women as sex objects rated their own bodies as thinner than men exposed to neutral advertisements, using the Figure Rating Scale (Stunkard et al., 1983). The participants who viewed sexist ads also reported larger discrepancies between actual and ideal body size than viewers of nonsexist ads, preferring a larger body and chest, and perceived that their peers wanted a larger body than they did. The authors suggested that portrayals of the ideal male as muscular and beautiful may shape the body images of men, just as thinness and beauty in women embody the feminine ideal.

Hargreaves and Tiggemann (2002) exposed men to a set of 20 appearance-related television advertisements that portrayed the male ideal and found that viewing these appearance-related commercials was associated with increased schema activation. The authors conclude that brief, yet intense, exposure to ideal television images heightens men's awareness of their own appearance, making them more susceptible to process and react differently to critical self-

evaluations if schematic for appearance. Although mood and body dissatisfaction remained unaffected in men, similar findings that suggest a schema-driven process of appearance self-evaluation are consistent with past studies with women (Altabe & Thompson, 1996; Cash, 1994a; Heinberg & Thompson, 1995) and indicate a cognitive processing component to body image. These results in particular, however, were based on an assessment of schema activation in men by the Appearance Schemas Inventory (Cash & Labarge, 1996), a measure standardized on a sample of 274 college females and yet to be established as reliable and predictive of appearance-related information processing and situation-specific body image emotional experiences in men.

In the most recent body image experiment involving men, Agliata and Tantleff-Dunn (2004) exposed men to male ideal advertisements contained within a regularly viewed television program. Results indicated that males exposed to advertisements portraying the muscular male ideal became significantly more depressed and had higher levels of muscle dissatisfaction than males who viewed a neutral videotape. Although the changes in mood and appearance satisfaction indicated the negative effects of media exposure on males' body image, there were no dispositional effects noted. Regardless of pretest levels of body image and sociocultural attitudes towards appearance, all male participants exposed to ideal body image advertisements experienced a significant increase in depression and body dissatisfaction, refuting the schema driven process of body image disturbance suggested by earlier research (Hargreaves & Tiggemann, 2002). The authors propose that males, regardless of schematicity, are reactive to appearance-related cues and tend to interpret these messages at face value without filtering it through a pre-existing internal cognitive set. In general, the findings support previous research noting the negative impact of television viewing on male body image and give further evidence

that, like females, males are highly in tune and aware of media messages and can be adversely affected by intense and regular exposure to these messages.

In accordance with these findings, correlational studies have linked self-reported exposure to ideal television images with increased eating disorder symptomatology and increased negative stereotyping of overweight television characters (Harrison, 2000a). Contrary to past research, however, Harrison (2000b) found that exposure to overweight television characters predicted body dissatisfaction in young males. These studies would suggest that males viewing an ideal image process the message according to a self-ideal discrepancy, resulting in dissatisfaction, whereas males exposed to overweight characters may identify with the character as non-ideal, which may also trigger feelings of appearance dissatisfaction. Further research is needed in order to understand the true nature of the cognitive processing of appearance messages in men.

Risk Factors for Body Dissatisfaction in Men

Despite the lack of appropriate assessment measures for male body image concerns and the resultant inconsistencies in the literature, it seems apparent that reports of body dissatisfaction are increasing. Although this increased prevalence is often misunderstood and can be attributed to either an actual increase in the rates of male body dissatisfaction or to increased awareness of appearance among men and therefore more reports of dissatisfaction, current research suggests the need for further attention in the areas of assessment, treatment, and prevention of male body image dissatisfaction. An abundance of data stemming from survey, correlational, and experimental research give indication of an increasing concern among men regarding the investment they have in their appearance and the attributes they associate with their current and ideal image (Kolbe & Albanese, 1996; Mazur, 1984; Raphael & Lacey, 1992).

Studies with male bodybuilders have demonstrated elevated levels of body image disturbance, over-exercise, and supplement use, as well as disordered eating attitudes and behaviors consistent with anorexia (Carman, 2001; Loosemore, Mable, Galgan, Balance, & Moriarty, 1989). In fact, the number of eating disorder-related studies including men has increased over six-fold in the past 12 years, with now more than 360 articles on pathological eating in men. Among these studies, body dissatisfaction, exercise level, and BMI have been found to be correlates of dietary restraint in young men (Davis, Shapiro, Elliott, & Dionne, 1993), suggesting a similar relationship between body image disturbance and eating disorders as seen in women. Miller (2002) reported eating disorder symptomatology in men across academic years with a marked decrease in body satisfaction, suggesting that appearance disturbance is a precursor to eating pathology in men. Much like the research on males' body image, the study of eating disorders in men have similar measurement issues that call into question the accuracy of these findings. These studies often use tools such as the EDI (Garner et al., 1983), the EAT (Garner & Garfinkel, 1979), the Bulimia Test (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991), and the Bulimia Cognitive Distortions Scale (BCDS; Schulman, Kinder, Powers, & Prange, 1986), all of which are female-normed and do not address the dietary concerns, restriction tactics, or body change techniques most often used by men.

Despite research linking the increase in male appearance concerns with eating symptomatology, according to the National Institute of Mental Health, only 5-15% of people with anorexia and bulimia, and an estimated 35% of those with binge eating disorder are male. Although findings suggest that heterosexual males consistently report the lowest levels of eating disturbance (Strong, Williamson, Netemeyer, & Geer, 2000), researchers must be cautious not to assume that they therefore have the lowest levels of body image disturbance. These statistics

may suggest that either the prevalence rates of males with eating disorders are grossly underrepresented due to poor assessment and an unwillingness to seek treatment, that they are better able to cope with pathological eating cognitions, or their concerns and dissatisfaction with their appearance are channeled differently than females'. Researchers agree that, while many men experience body dissatisfaction, mood disturbance, and increasing pressures to meet an ideal, the manifestation of these pressures is more likely linked to excess exercise and use of muscle building supplements than eating disorders and dietary restraint. Though men preoccupied with exercise and the appearance ideal share traits such as body image disturbance, perfectionism, narcissism, and obsessive self-competitiveness consistent with anorexia, their feelings of shame for appearing too small have been referred to as "reverse anorexia" (Andersen, 1999; Olivardia, 2001; Olivardia, Pope, & Hudson, 2000). In fact, according to the American Psychological Association's *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition Text Revision* (DSM-IV-TR; 2000) this often pathological preoccupation with muscularity among men meets diagnostic criteria for body dysmorphic disorder, and is now known by researchers as muscle dysmorphia (Pope, Gruber, Choi, Olivardia, & Phillips, 1997).

Muscle dysmorphia, which is analogous to the male version of eating disorders and shares many of its diagnostic characteristics, has gained the most attention for men in the field of body image in recent years. In fact, there are currently four body dysmorphia measures that tap into issues of bodybuilding, muscle satisfaction, and similar physique-related constructs that also address the cognitive, affective, and behavioral dimensions assessed by eating disorders measures. The Bodybuilding Dependence Scale (Smith, Hale, & Collins, 1998) is the first published measure for the assessment of compulsive weight lifting and has been validated for use with men. The Social Physique Anxiety Scale (Hart, Leary, & Rejeski, 1989) assesses the

discomfort experienced in social settings when one's appearance is subject to evaluation and is also a valid and reliable measure for men. The Swansea Muscularity Attitudes Questionnaire (Edwards & Launder, 2000) was developed to assess one's drive towards muscularity and the perceived benefits of a muscular physique. Most recently, the Muscle Appearance Satisfaction Scale (Mayville, Williamson, White, Netemeyer, & Drab, 2002) was developed to specifically assess symptoms of muscle dysmorphia in men, with a normative sample of 372 male weight lifters. Use of these scales has provided researchers with a better understanding of male-specific appearance concerns and will hopefully set the tone for scale development in other areas of male body image.

According to recent studies using appropriate forms of assessment, muscle dysmorphia has been associated with shame, embarrassment, social and occupational impairment, and has been linked to clinical dysfunction and steroid abuse in men (Olivardia et al., 2000). Like men with muscle dysmorphia, research suggests that men who use anabolic steroids may be similar to women with eating disorders (Blouin & Goldfield, 1995). This research argues that, just as the development and maintenance of eating disorders are clinical indicators of body dissatisfaction, especially in females, the use of steroids and dietary supplements for weight gain and muscle enhancement in men should be considered equally pathological and ought to be clinically addressed. In fact, research has shown that dissatisfaction with body size is among the strongest predictors of anabolic steroid use in men (Blouin & Goldfield, 1995; Brower, Blow, & Hill, 1994; Brower, Blow, Young, & Hill, 1991; Schwerin et al., 1997) and has been linked to experimentation among adolescents searching for weight control and increased muscle mass (Banks, 1992; Labre, 2002). According to published reports, the increasing rates of anabolic steroid use have paralleled the growing desire among men and boys for a more muscular build

and pose a significant health risk in our society (Copeland, Peters, & Dillon, 2000; Wright, Grogan, & Hunter, 2000; Yesalis, 1992; Wroblewska, 1997). As many as nearly one-half million high school aged boys reported regularly using steroids in a 1997 study (Yesalis, Barsukiewicz, Kopstein, & Bahrke, 1997), with more recent reports from the Drug Enforcement Agency suggesting a sharp increase over the past 2 years in steroid use among adolescents, especially males.

Trends in Appearance Change Techniques Among Men

While steroid use is undoubtedly increasing among men striving to meet the cultural ideal, certain aspects of appearance are not muscle-related and are immune to substance-enhanced efforts at the gym. Hair coloring and gels, tooth whiteners, skin moisturizers, and other male hygiene products are now a multibillion-dollar industry in the United States, with growing numbers of men receiving professional nail care, skin treatments, and facials (Pope et al., 2000). Though not inherently problematic, these appearance change techniques have become commonplace in American households and are indicative of the greater societal problem of appearance dissatisfaction and perfectionism.

In accordance with this trend in cultural vanity among men, males who seek facial or other structural body alterations, as well as those wanting to bypass exercise for instant musculature, have more recently employed the help of cosmetic surgery to meet these desires. According to the American Society of Plastic Surgeons, over 1 million surgical and non-surgical procedures were performed on men in 2002 as a “quick fix” to satiate appearance goals. Top surgical procedures for men were nose reshaping, liposuction, and eyelid surgery, whereas chemical peels, Botox injections, and microdermabrasion were the most routine non-surgical practices.

Phillips and Diaz (1997) reported that men and women with body dysmorphic disorder were equally likely to have cosmetic surgery, noting a preoccupation among men with their body build, genitals, and thinning hair. Further research suggests that many men who have had cosmetic surgery report greater post-operative body dissatisfaction for the body site or feature operated on, suggesting an obsessive preoccupation with the imagined defect and an inability to be satisfied - characteristics of body dysmorphic disorder (Pertschuk, Sarwer, Wadden, & Whitaker, 1998). In fact, among all cosmetic surgery patients, research suggests that males are typically more psychologically disturbed than females and are at greater risk to respond negatively to the procedure (Edgerton & Langman, 1982; Goin & Goin, 1981), possibly due to a heightened vulnerability and discomfort with their body image (Fisher, 1986). Common responses to surgical procedures may include mood disturbance, insatiability, depersonalization, and occasional psychotic decompensation (Edgerton, Langman, & Pruzinsky, 1995; Groenman & Sauer, 1983; Thomson, Knorr, Edgerton, 1978).

Literature Summary and the Current Study

Although the field of body image has effectively raised attention to a growing concern among men, the current literature continues to ineffectively address a number of critical issues in need of further study. Though it appears apparent that more men are experiencing body dissatisfaction and are engaging in behaviors to reach a culturally ideal image, researchers need to better understand the etiology and prevalence of appearance disturbance in men and the potential implications these concerns may have. In light of evidence suggesting complex relationship between the male body image ideal and a host of negative consequences associated with appearance dissatisfaction, including the development of muscle dysmorphia, steroid use,

and excessive exercise, further study is clearly in order. Initial efforts in the development and validation of assessment measures that address male-specific concerns are essential. Although past research has begun to shed light on a previously understudied population, only through establishing accurate assessment of male body image can researchers hope to work towards effective approaches to treatment and prevention.

Given the apparent limitations in assessment and the current state of affairs in male body image, the purpose of the present study is to introduce a newly developed and psychometrically sound measure for the assessment of male-specific body image concerns for use in both research and clinical settings. The Appearance Inventory for Men (AIM) is being introduced as a self-report inventory for the assessment of various attitudinal and behavioral aspects of male body image. Consistent with previous research, the body image construct is considered to include aspects of global subjective dissatisfaction in appearance, affective distress with appearance, cognitive aspects of body image, and behavioral avoidance reflective of appearance dissatisfaction (Thompson & van den Berg, 2002). In addition, recent research notes the impact of interpersonal (Vartanian, Giant, & Passino, 2001; Tantleff-Dunn & Gokee, 2002; Thompson et al., 1999) and sociocultural influences on body image (Fallon, 1990; Heinberg, 1996; Thompson et al., 1999) that have only recently gained attention in assessment. While a host of measures exist in the field of body image that address these components, the majority are standardized on female samples and fail to address concerns of primary concern to men. Although few measures are appropriate for use with men, including the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown, Cash, & Mikulka, 1990; Cash, 1994c), no scales have been designed with the sole intention of assessing various “dispositions towards the physical self” (Cash & Pruzinsky, 1990, p.181) from a male-specific point of view. It is

hypothesized that cognitive, affective, and behavioral factors of body image will be evident in exploratory factor analyses. Further, due to the multi-dimensional nature of the measure, it is expected that the AIM will be highly convergent with existing measures that assess individual aspects of body image and psychosocial functioning.

METHOD

This study was conducted in three phases: Phase 1 consisted of the item generation phase; Phase 2 served as the data collection phase for the newly developed scale and included extant measures later used for questionnaire validation; and Phase 3, presented in the Results section, consisted of a series of analyses for item elimination, factor structure, and final questionnaire validation.

Phase 1: Item Generation

Participants

Participants during the initial item generation phase included 253 males at a large southeastern university, and from workplaces and fitness centers in the same city. Multi-site data collection, recommended in previous research (Cooper, Taylor, Cooper, & Fairburn, 1987), was used to ensure a representative sample and improve the generalizability and external validity of the final measure. Ninety-five percent of the participants ranged between 17 and 26 years of age, with a mean age of 20.9 years ($SD = 3.8$). Seventy percent of the sample was White, 14.6% were Hispanic, 9.4% were African American, and 2.4% were Asian. Participants' weight ($M = 180.1$ pounds, $SD = 36.8$) and height ($M = 71.0$ inches, $SD = 2.9$) were used to calculate Quetelet's Index (Wt/Ht^2), $M = 24.9$, $SD = 4.3$. Student participants received extra credit points for their participation in the study and community volunteers were thanked.

Procedure

Participants first provided consent (Appendix A), agreeing to participate in a study on eating behaviors and body image issues among men. They were then given a two-part item generation survey to complete. Part 1 of the survey consisted of open-ended, free-response items (Appendix B) inviting them to, “Please provide your thoughts and feelings about your physical appearance and its role in your life.” This general statement enabled participants the freedom to disclose their degree of appearance satisfaction, identify emotions associated with their appearance, uncover cognitions and perceptions of appearance, and possibly identify compensatory behaviors or body change techniques they employ. In order to elicit any non-spontaneous personal concerns, participants were then prompted to provide written feedback through a guided response survey (Part 2; Appendix C). Similar to the procedures used to develop and validate other psychometrically sound body image measures, items included in the guided response phase were rationally derived by the researchers and based on previous empirical data on male body image (see Cash & Szymanski, 1995; Heinberg, Thompson, Stormer, 1995; Thompson, Fabian, Moulton, Dunn, & Altabe, 1991). These items queried individual concerns regarding specific aspects of appearance (e.g., hair, muscularity, physique, height.), as well as their attitudinal disposition toward body image. Dispositions included *affective* (e.g., anxiety depression), *cognitive* (e.g., investment in appearance, thoughts or beliefs of appearance), and *behavioral* (e.g., situational-related avoidance) components of body image, as suggested by previous research (Thompson & van den Berg, 2002). In line with prior studies, new participants were recruited until similar statements were repeated and no new information emerged (Borjesson, Aarons, Dunn, 2003).

The list of item generation responses was organized into conceptual categories that best represented the variety of responses with minimal loss of unique information (Tantleff-Dunn, Dunn, & Gokee, 2002). Consistent with prior research (DeVellis, 1991), redundant, ambiguous, and theoretically irrelevant responses were identified and eliminated, resulting in a final set of responses on which to base the new measure's items. From the responses, 176 test items (rated at a 5th grade reading level) were written to reflect the statements and concerns revealed from males during the item generation, and represented Section One of the measure. Due to a large number of responses citing body part concerns and routinely used compensatory behaviors, two supplemental scales were written to assess levels of satisfaction with specific body parts (e.g., eyes, shoulders, calves; 40 items) and likelihood of engaging in common appearance-change/appearance-coping techniques (e.g., steroids, toupee, humor; 30 items), representing Sections Two and Three, respectively, of the measure (Appendix D). Although this large number of items is significantly more than desired on the final measure, guidelines in scale development suggest that an initial pool up to four times larger than the desired final scale is acceptable in order to achieve high internal consistency and content validity (Netemeyer, Bearden, & Sharma, 2003). Likert-style response choices prompted degrees of *agreement* for each statement (1=definitely disagree; 2=mostly disagree; 3=neither agree/disagree; 4=mostly agree; 5=definitely agree). Similar Likert-type items were used for the supplemental scales, but inquired participants' level of *satisfaction* regarding specific body sites and *likelihood* of engaging in appearance change/coping techniques.

Phase 2: Data Collection

Participants

The questionnaire was administered to 330 male university students for extra credit and community volunteers from local gyms and work places (M age = 23.7 years, SD = 8.1). Participants' age ranged from 17 to 61 years, with 91% younger than 32 years. Eighty-seven percent of this predominantly heterosexual sample (96%) were reportedly single or "casually dating." Fifty-six percent of the sample were White, 15.8% were Hispanic, 11.2% were African American, 7.3% were Asian, and approximately 9% identified themselves as "Other." Height (M = 70.5", SD = 2.8") and weight (M = 177.6 lb, SD = 31.1 lb) were inquired in order to identify a possible relationship between participants' responses and their BMI (M = 25.1, SD = 3.9). Four participants (1.2%) had a BMI under 18.5 (underweight); 52.4% had BMI's in the normal range between 18.5 and 24.9; 36.7% had BMI's between 25.0 and 29.9 (overweight); and 9.7% fell into the obese category with a BMI over 30. Although some scale development research recommends as many as ten participants per variable (Kerlinger, 1992), other, more conservative estimates, such as 60 participants per factor, are deemed appropriate for scale stability and reliability of similar appearance constructs (Clark & Watson, 2003; DeVellis, 1991; Nunnally, 1978, Tinsley & Tinsley, 1987).

Measures

Several established body image measures and indices of psychosocial functioning were used to validate the AIM and were chosen on their psychometrics and acceptance in their respective fields. These measures included the following:

1. *Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown et al., 1990; Cash, 1994c)*. The MBSRQ is a 69-item, well-validated inventory that assesses body image attitudes across 10 subscales. For the current study, 7 subscales were used (51 items). The Appearance Evaluation (AE) subscale consists of 7 agree-disagree items that assess general feelings of attractiveness and satisfaction with one's appearance. This subscale is internally consistent (.88) for males and has good test-retest reliability (.81). The 12-item Appearance Orientation subscale (AO) assesses the extent of one's investment in appearance, with good internal consistency (.88) and test-retest reliability (.89) for males. The 3-item Fitness Evaluation (FE) and 13-item Fitness Orientation (FO) subscales assess perceptions of being physically fit and investment in fitness and athletic competence, respectively. The FE and FO subscales have internal consistencies of .77 and .91, respectively, and test-retest reliabilities of .76 and .73, respectively, for male samples. The 6-item Health Evaluation (HE) and 8-item Health Orientation (HO) subscales assess one's feelings of freedom from physical illness and overall investment in being health conscious, respectively. The HE and HO subscales have internal consistencies of .80 and .78, respectively, and test-retest reliabilities of .71 and .76, respectively, for male samples. The Body Areas Satisfaction Scale (BASS) assesses one's degree of satisfaction with 8 specific body sites and has good reliability for men (IC=.77; TR=.86).
2. *Body Esteem Scale (BES; Mendelson & White, 1985; Mendelson, White, Mendelson, 1998)*. The 23-item BES was used to assess body esteem. The three subscales (Appearance, Attribution, Weight) have good reliability for men (IC= .81 - .94).

3. *Situational Inventory of Body Image Dysphoria (SIBID; Cash, 1994b; Cash, 2002b)*.
The SIBID is a 20-item measure used to assess the emotional dysphoria one may experience about their body in specific situational contexts. This measure has recently been shortened and has excellent reliability (IC=.96; TR=.80) for men.
4. *Swansea Muscularity Attitudes Questionnaire (SMAQ; Edwards & Launder, 2000)*.
The 20-item SMAQ was included to assess attitudes and behaviors pertaining to muscularity. Two subscales assess individuals' drive towards muscularity (IC=.94) and identify the positive attributes they associate with muscular physiques (IC=.91).
5. *Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ; Heinberg et al., 1995)*. The male version of the SATAQ was used to assess participants' recognition and acceptance of socially sanctioned standards of attractiveness. This 21-item questionnaire has three subscales that assess one's Awareness (IC=.87) and Internalization (IC=.75) of the ideal and concerns related to Muscularity and Looking Good (IC=.79).
6. *Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965)*. This is a 10-item measure used to assess general self-esteem. The RSE is a reliable (.92) and valid (TR=.85) measure with moderate to high convergence with other measures of self-esteem.
7. *Zung Self-Rating Depression Scale (Zung, 1965)*. The Zung Self-Rating Depression Scale is a 20-item measure assessing recent depressive symptomatology. The Zung has good reliability (.82) and validity.
8. *Manifest Anxiety Scale (Taylor, 1953)*. The Manifest Anxiety Scale is a 50-item true-false scale that assesses participants' level of anxiety. This scale converges with the MMPI and has good reliability (IC=.81; TR.89).

9. *Marlowe-Crowne Social Desirability Scale (SDS; Crowne & Marlowe, 1960)*. The SDS contains 33 true-false items reflecting subjects' tendency to present themselves in a desirable manner by approving culturally approved behaviors.
10. *Big-Five Factor Markers (Goldberg, 1992)*. Goldberg's Big-Five Factor Markers for personality traits was used as a measure of discriminant validity. Respondents were asked to rate the accuracy of 40 personality adjectives in describing themselves (e.g., talkative, sympathetic, efficient), yielding total scores that tap the extensively validated big-five personality structure (Surgency, Agreeableness, Conscientiousness, Emotional Stability, Intellect).

Procedure

Participants were administered informed consent forms, followed by a battery of measures containing demographic information, the aforementioned validation scales, and the newly developed AIM. The majority of participants completed the packet within one-hour and were able to ask questions if they arose. Informed consent forms and questionnaires were kept separately to ensure anonymity.

RESULTS

Phase 3: Data Analysis

Demographic data collected at each site (university, gym, work place) was compared using a series of one-way ANOVAs to ensure no significant differences existed between groups that would compromise pooling the data for subsequent factor analyses. Group means were also compared for each of the AIM sections to identify potential confounds or response patterns related to collection site that could taint later results. No significant differences were found on any of the demographic data or AIM sections between the three collection site groups (Table 1). Due to the nonsignificance of these ANOVAs, the three groups were pooled together for the remaining analyses for increased power.

Factor Structure

To prevent a priori exclusion of potentially important variables from the initial factor structure, data were submitted to an exploratory factor analysis (EFA) with varimax rotation (Comrey, 1988; MacCallum, 1998; Tabachnik & Fidell, 1996). Although several stopping rules exist for determining the number of eigenvectors, experts suggest that Kaiser's (1960) "eigenvalue greater than one" criteria is most reliable when the number of variables is between 20 and 50, arguing that less than 20 variables may lead to conservative factor extraction and more than 50 variables often results in too many factors being taken out (Cattell, 1952; Stevens; 1986). Given the large number of variables in the current study (176), applying Kaiser's rule would result in 49 factors with latent roots greater than one and fail to capitalize on the data-reduction purpose of factor analysis. As a result, an alternate, yet common and supported

graphical factor determinant suggested by Cattell (1966) was used to identify factors for extraction.

Based on a visual inspection of the scree plot, five distinct factors emerged, accounting for 48.8% of the total variance. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.88, suggesting relatively compact patterns of correlation that should yield distinct and reliable factors. Bartlett's test of sphericity was significant ($p < .001$), suggesting a relationship among variables. Factor 1 contained items that focused on weight-related concerns and attitudes (e.g., “Others will not find me attractive due to my weight”), and avoidance tactics or compensatory behaviors to cope with their over/underweight perception (e.g., “I wear clothing that will not reveal my body shape”). The second factor tapped the perceived importance of and drive towards muscularity (e.g., “Having a six-pack stomach is essential”). Factor 3 contained a set of items that describe perceived personal and social corollaries of appearance (e.g., “I flirt more when I am satisfied with my appearance”), including internal and external sources of motivation for tending to one’s appearance (e.g., “People judge others first based on appearance”). The remaining two factors each contained only a few items with moderate factor loadings and were not interpretable.

Item Elimination

Given the theoretically-sound, three-factor solution, the remaining 110 items were subjected to a priori criteria for retention and systematically eliminated. Criteria included retaining items with factor loadings of .50 or greater on the primary factor and .20 or lower on alternate factors and removing items with low item-total correlations or poor theoretical fit (Borjesson et al., 2003; Heinberg et al., 1995, Thompson et al., 1991). Such stringent criteria

were set to help refine the large number of initial items into smaller, more unified factors. As a result of this item elimination process, 70 items were discarded, leaving 18 items in Factor 1, nine items in Factor 2, and 12 items in Factor 3.

Confirmatory Analyses

The reduced item AIM was again analyzed to confirm the factor structure. This confirmatory method of hypothesizing the factor structure a priori and testing the model's goodness of fit to the data is a recommended technique to use in tandem with EFA for theory testing (Bollen, 1989; Bryant & Yarnold, 1995; Hayduk, 1987). As expected, a three-factor solution was obtained, with the refined structure accounting for 59.7% of the total variance (Table 2). The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.87 and Bartlett's test of sphericity was again significant ($p < .001$). The 18-item Factor 1 contained statements pertaining to negative attitudes regarding weight (Weight Focus [WF]); nine items pertaining to the importance and drive towards muscularity loaded highly onto Factor 2 (Muscle Focus [MF]); and the remaining 12 items loaded onto Factor 3, pertaining to the perceived personal and social benefits of a positive appearance (Appearance Motivation [AM]). Mean scores, SEMs, ranges, and reliability coefficients (Cronbach's alpha) were calculated for each subscale and are listed in Table 3. The high alpha levels for the factors indicate high internal consistency for all three scales.

Supplemental Scales

In addition to the proposed three-factor solution, 2 special multi-item subscales were created during the item generation phase to be included in the final AIM. The Key Areas for

Men (KAM) subscale views body image evaluation along a continuum of satisfaction-dissatisfaction for 15 discrete body sites identified by males as areas of primary concern, with higher scores found to be associated with greater body dissatisfaction. Similar body site scales have been developed and are often used as stand-alone measures of body image satisfaction (e.g., Body Areas Satisfaction Scale of the MBSRQ). The 15-item Strategies for Appearance Management (SAM) subscale assesses the common ways males compensate for, cope with, and manage their appearance. While exercise/weight training, nutrition control, and using personality or humor were commonly endorsed, less than 4% of the participants endorsed the likelihood of purging for weight-control and even fewer considered weight-related cosmetic surgery (3.3%) or muscle implants (3.6) to alter their appearance. Despite this rejection of cosmetic surgery and low support for pathological eating, relatively few males reported considering or currently using steroids (7.7%), with over 81% denying any likelihood of ever using performance enhancement drugs. Descriptive statistics and reliability coefficients (Cronbach's alpha) for the 15 most strongly endorsed items on the KAM and SAM are also provided in Table 3.

Questionnaire Validation

To test the psychometric properties of the newly developed scale, a series of analyses were used to test the validity of the AIM factors and subscales with previously established measures of body image and psychosocial functioning (Table 4). Correlations suggest the AIM converges well with existing measures of body image and emotional disposition and discriminates appropriately from measures of personality, as hypothesized.

DISCUSSION

The data presented above suggest the utility of the AIM for researchers interested in further investigating male body image. This research marks the first attempt to develop and validate a comprehensive, multidimensional assessment tool specifically for male body image that is not limited to muscle-related items, but also addresses weight concerns, assesses male-specific body site satisfaction, and inquires about current efforts and motivation for appearance change. Given its breadth, the AIM has great potential in a culture that not only values appearance, but increasingly emphasizes its importance for men. Results indicate a relatively stable, three-factor structure in relation to weight and appearance concerns, as well as sources of motivation and perceived benefits to having a positive appearance.

The first factor, termed Weight Focus (WF), relates to the negative cognitions and feelings associated with being dissatisfied with one's weight, as well as specific behaviors often used to manipulate or hide weight-sensitive areas. Though several items directly assess perceptions of being overweight or underweight, the majority of items avoided making weight inferences (over/underweight) to allow all forms of weight dissatisfaction to be expressed. In doing so, items became relevant for all men to consider, resulting in a distinct weight-related factor that can be used in future studies to help discern more accurate rates of dissatisfaction among men. Key items within the WF subscale can be used to determine the direction of desired weight change for research purposes. For example, an endorsement of the item, "I am ashamed that other men think I am skinny and weak" implies a perception of being underweight, whereas the statement, "The first thing people notice about me is that I am overweight" suggests a perception of being overweight from which to interpret the overall subscale score.

As expected, the WF was highly convergent with other evaluative measures of body image (MBSRQ-AE/FE), body esteem (BES), and negative appearance-related emotion (SIBID). Furthermore, males who are oriented towards weight experience elevated anxiety and low self-esteem, suggesting an affective component to body image among men. Although social desirability and intellect discriminated from the WF, as hypothesized, other personality factors predicted to be unrelated had mild to moderate associations. These relationships indicated that males concerned with their weight tended to be less outgoing, envious, temperamental, and disorganized - painting the picture of a reserved and bitter person whose personality is reinforced by their negative self-perception.

The second emergent factor, Muscle Focus (MF), taps efforts and drive towards muscularity in men. In conjunction with the aforementioned bidirectional weight scale, the MF for men has been the missing component for male body image assessment, and is an integral part of the AIM. The strong relation between the MF, the Swansea Muscularity Attitudes Questionnaire (SMAQ; Edwards & Launder, 2000), and the orientation subscales of the MBSRQ suggest these scales converge on the same construct – that of valuing fitness, appearance management, and emphasizing muscularity. Research suggests that high scorers on these measures enjoy greater body satisfaction and esteem, and are less likely to have mood disturbance. The MF discriminated adequately from measures of social desirability and personality, suggesting domain specificity of the subscale.

The final factor, Appearance Motivation (AM), relating to the perceived benefits and sources of motivation regarding appearance, also demonstrated strong convergence with subscales of body image and muscularity. Males motivated by the positive social outcomes of appearance indicated significantly higher levels of self esteem and lower levels of depression,

regardless of their appearance satisfaction. Such a relationship may suggest the contingency, “Despite my current body satisfaction, *if* I work to improve my appearance, *then* I....gain a sense of pride ...can flirt more ...will impress others,” and may operate by creating hope and improving mental health. The role of hope and possibility seemingly buffer men from their self-perceptions and enable them to be driven by these positive attributes of appearance. Such an understanding fits well into a cognitive-behavioral framework and offers great clinical implications for men presenting with body image issues and associated negative mood.

Like the Body Areas Satisfaction Scale (BASS) of the MBSRQ and the Body Esteem Scale (BES), the Key Areas for Men (KAM) subscale was designed to measure satisfaction with discrete body sites, but of specific concern to men. Eleven of the 15 items identified sites are muscle-related, again suggesting that a big component of body image among men is muscularity. The KAM was strongly related to both the BASS and the BES as expected, suggesting consistency among items and good convergence of these body site scales. Accompanying higher body satisfaction are lower levels of depression and anxiety, higher self-esteem, and lower situational body image dysphoria. These findings that satisfaction with critical body sites is related to overall positive self-perception and mood is well established in prior literature (Cash & Pruzinsky, 1990; Thompson et al., 1999) and appears to be confirmed among men following appropriate assessment. Given its strong internal consistency and validity, the KAM subscale can be used alone as a cursory measure of body image for researchers studying appearance satisfaction in men, though administering the complete AIM provides greater breadth and depth.

The second supplemental scale, and last subscale of the AIM, can be used to assess the likelihood of engaging in the most commonly identified forms of appearance managing techniques. Common appearance altering tactics, such as dieting and exercising, were included

among unique strategies such as body shaving, using hair care products, and moisturizing. In addition to methods of altering appearance, participants identified appearance-hiding tactics, such as wearing newer, trendy clothing, and diversion tactics, such as using personality or humor, to compensate for their appearance. Confirming suggestions of prior research (Drewnowski & Yee, 1987; Drewnowski et al., 1995; Furnham & Calnan, 1998), equally as many participants endorsed a likelihood of dieting and restricting their intake for appearance management as those reporting a likelihood of eating more food and using weight supplements to improve their physical appearance. This finding supports the argument that prior research has often failed to capture true estimates of male body dissatisfaction by overlooking those wanting to increase body size and erroneously assuming that dissatisfaction with weight equated solely to feeling overweight.

The Strategies for Appearance Management (SAM) was highly convergent with the appearance and fitness orientations subscale of the MBSRQ, suggesting these subscales tap the same domain of appearance investment and maintenance efforts. The data also suggest that low body satisfaction is often associated with a greater willingness to rely on appearance altering or diverting techniques and a tendency to be driven towards the perceived positive attributes of muscularity. Interestingly, the SAM was strongly related to the SATAQ, indicating both measures are sensitive to sociocultural influences on appearance and contain items that possess an understood source of motivation. Personality and social desirability were discriminant.

Despite a three-factor solution, as hypothesized, the expected cognitive, affective, and behavioral components were not supported. Upon consideration of this finding, it seems plausible that these three domains are more a function of item style and author intuition, rather than exclusive categories within the construct of body image. As reported in earlier studies

(Thompson, Altabe, Johnson, & Stormer, 1994; Williamson, Barker, Bertman, & Gleaves, 1995), there is considerable overlap among many questionnaires purported to measure distinct cognitive, affective, or behavioral aspects of body image, evidenced by high intercorrelations. The current findings support the notion that these subjective indices of body image may be more related to methodological differences and represent convenient ways to categorize measures within the field, as opposed to signifying orthogonality. Although cognitive, affective, and behavioral items were written for the AIM and expected to emerge as orthogonal factors, dispersion of these item-types throughout each factor is consistent with the aforementioned studies and supports the emergence of alternate underlying factors.

As with the development of any new instrument, the promise of the AIM also comes with several limitations and need for follow-up worthy of note. First, no clear or agreed-upon guidelines exist in the scale development literature for sample size determination. Several sources label samples of 300 as “good” (Comrey & Lee, 1992) or “comforting” (Tibachnick & Fidell, 2001) for factor analysis, and further note an inverse relationship between factor loadings and sample size, such that solutions with several high factor loadings often require fewer cases. Furthermore, cognitive, affective, and behavioral components of body image are professed to be well established and indicative of a clear and underlying factor structure, characteristics noted by Kline (1994) as requiring relatively small samples like that of the current study.

Despite the above criteria for sample adequacy, a second school of thought (representing the majority of scale development research) recommends using much larger samples to increase power and improve upon the psychometric properties of the measure under review. Some highly conservative scale development researchers recommend no less than ten participants per

variable, indicating that nearly 2000 participants would have been required in the current study to obtain valid results.

In light of these suggestions, and because the widely accepted and predicted body image factors did not emerge from the large number of items, a larger and more diverse sample is a necessity to better understand the data and improve the reliability of the correlation coefficients. Given the lack of support for the existing body image factor structure, psychometric data regarding the AIM should be considered preliminary and confirmatory analyses should be the next step in further developing and validating this measure.

In addition to replicating the findings with larger, more diverse groups (age, ethnicity, geography) to ensure its factor structure and stability, future studies should attempt to establish test-retest statistics that compliment its already established high internal consistency. Further, though the AIM has good face and content validity, and was shown to converge with measures of body image and discriminate from personality and social desirability, future studies should test the AIM's predictive validity as an index of its ultimate real-world usefulness.

The introduction of the AIM should prove useful to researchers interested in further investigating different aspects of male body image and gaining insight into prevalence rates, gender differences, or related topics previously limited by our inability to accurately measure males' body image. The AIM also can be utilized in clinical settings as a brief screening tool for disorders related to body image disturbance and eating pathology, though certainly not intended to be exhaustive or diagnostic. Particular items can be used by clinicians to help identify and challenge client cognitions, discover possible harmful coping techniques, and better assess associated levels of distress. Despite the limitations discussed above and future work recommended to improve upon this newly developed scale, the creation and initial validation of

the male-specific AIM for use in the field of body image is a much needed step forward that was long overdue.

APPENDIX A
INFORMED CONSENT

Human Participants Informed Consent Form

The purpose of this study is to understand the concerns men may have regarding their physical appearance.

As a participant, I understand that I will be asked to complete a series of physical appearance-related questionnaires that will take approximately 45 minutes to complete. For my participation, I will be compensated with 1 hour of extra credit towards my academic coursework (if applicable). I understand that there are no foreseeable risks associated with my participation in this study, though any complaints of emotional discomfort will be referred to free psychological services at the University of Central Florida. Upon completion of the questionnaires, I will receive a debriefing form that will further explain the purpose and nature of the current study, as well as provide contact information for the researchers and relevant referral sources for future reference.

I understand that any information that I provide will be completely anonymous, held in strict confidence, and used only for the purpose of this study. I am aware that my participation is strictly voluntary and that I may withdraw from this study at any time without penalty.

Given this information, I (print) _____, having full capacity to consent, do hereby volunteer to participate in the proposed study conducted by Daniel Agliata of the Laboratory for the Study of Eating, Appearance, & Health (LEAH) in the Psychology Department at the University of Central Florida. I have been informed of the nature, duration, and purpose of this research, and understand my role as a participant. I have been given an opportunity to read and sign a copy of this agreement and ask any questions prior to my participation. All of my questions or concerns have been addressed to my satisfaction. I will be able to contact Daniel Agliata (407) 823-3872 or Stacey Dunn, Ph.D., in the Psychology Department (407) 823-3578 with any further questions.

Signature

date

Student sponsor (if applicable)

date

Experimenter

date

APPENDIX B
ITEM GENERATION: FREE RESPONSE

APPENDIX C
ITEM GENERATION: GUIDED RESPONSE

Have you ever been concerned about (please print):

Muscle tone?

Please explain: _____

Weight?

Please explain: _____

Hair loss?

Please explain: _____

Aging?

Please explain: _____

Fat?

Please explain: _____

Body image?

Please explain: _____

Women's opinions of your appearance?

Please explain: _____

Men's opinions of your appearance?

Please explain: _____

Athleticism?

Please explain: _____

Facial features (e.g., nose, chin, eyes)
Please explain: _____

Body parts (e.g., legs, arms, back, waist, calves)
Please explain: _____

What type of eating behaviors and exercise have you participated in to alter your appearance?
(i.e. restricting, exercising, vomiting) _____

In what way are your emotions affected by your appearance (e.g., anxious, depressed, low self-esteem)? _____

In what way are your behaviors affected by your appearance (e.g., avoidance, clothing choice, flirting)? _____

How important is your appearance to you? How invested are you in your appearance? _____

APPENDIX D
MALE BODY IMAGE MEASURE

MALE APPEARANCE QUESTIONNAIRE

The following survey is being developed to investigate the thoughts and feelings men have regarding their physical appearance and its role in their lives. As an initial phase in creating a new assessment tool, you will notice that several of the items are intentionally repetitive and redundant. Though many of these statements do address similar topics and ideas in different ways, this information will prove extremely valuable to the outcome of the study and your patience is appreciated. Please take your time in considering each item individually and offering your thoughtful response.

Please proceed to Section I on the next page to begin the survey.

SECTION I.

Please use the following scale to indicate your level of agreement with each statement:

Completely Disagree 1	Somewhat Disagree 2	Neither 3	Somewhat Agree 4	Completely Agree 5	
1. I worry that if I lose weight, I also will lose muscle tone.	1	2	3	4	5
2. I avoid taking my shirt off in front of others.	1	2	3	4	5
3. I prefer to stay under a specific weight to avoid feeling fat.	1	2	3	4	5
4. I worry that my clothes will not fit me.	1	2	3	4	5
5. I worry that I will experience hair loss like my family members.	1	2	3	4	5
6. Aging will make me less attractive.	1	2	3	4	5
7. I constantly struggle with keeping my weight down.	1	2	3	4	5
8. Being overweight is a sign of male weakness.	1	2	3	4	5
9. I compare my appearance to others.	1	2	3	4	5
10. I hate first impressions.	1	2	3	4	5
11. Women see my youthful appearance as underdeveloped.	1	2	3	4	5
12. Men tend to their appearance to get a good reaction from others.	1	2	3	4	5
13. I seek competition to feel confident.	1	2	3	4	5
14. Increasing my muscle tone is a necessity for me.	1	2	3	4	5
15. Seeing the physical effects of my workouts motivates me to continue.	1	2	3	4	5
16. My weight goes hand in hand with my emotions.	1	2	3	4	5
17. I have a set weight in my head that I must stay within.	1	2	3	4	5
18. My thinning hair has become a concern.	1	2	3	4	5
19. I am not anxious about age-related changes in my appearance.	1	2	3	4	5
20. I do whatever is necessary to avoid looking fat.	1	2	3	4	5
21. I weigh myself often to monitor my weight change.	1	2	3	4	5
22. My appearance makes me anxious.	1	2	3	4	5
23. I don't date because I am too short.	1	2	3	4	5
24. I am concerned about others' opinions of me.	1	2	3	4	5
25. It is terrible to feel that others do not accept me due to my appearance.	1	2	3	4	5
26. I hate being out of shape.	1	2	3	4	5
27. I envy others who have rippled muscles.	1	2	3	4	5
28. Having an ideal physique makes life better all around.	1	2	3	4	5
29. I feel extreme pressures by society due to my excessive weight.	1	2	3	4	5
30. I worry that my weight is not evenly distributed throughout my body.	1	2	3	4	5
31. I will take precautionary measures to avoid going bald.	1	2	3	4	5
32. I will become more distinguished as I age.	1	2	3	4	5
33. I feel awkward when my weight increases.	1	2	3	4	5
34. I flirt more when I am satisfied with my appearance.	1	2	3	4	5
35. I try to look better than others to receive more attention.	1	2	3	4	5
36. I avoid situations where others will be able to judge my appearance.	1	2	3	4	5
37. Gaining weight from muscle mass is okay.	1	2	3	4	5
38. Competing successfully throughout my life has made me happier.	1	2	3	4	5

Completely Disagree 1	Somewhat Disagree 2	Neither 3	Somewhat Agree 4	Completely Agree 5
79. I do not overeat for health reasons.				
80. I grow my hair out to hide my receding hairline.	1	2	3	4
81. I am caring for myself now to slow the aging process.				
82. People assume I am weak because I am skinny.	1	2	3	4
83. I feel insecure about certain aspects of my appearance.				
84. I am anxious that others will not find me sexually appealing.	1	2	3	4
85. I avoid certain groups because I probably wouldn't be accepted.				
86. I push myself physically to fulfill my potential.	1	2	3	4
87. Self-confidence and muscle tone go hand and hand.				
88. Muscle tone plays a large factor in athletic success.	1	2	3	4
89. Having a six-pack stomach is essential.				
90. I wear clothing that will not reveal my body shape.	1	2	3	4
91. A thick head of hair is attractive.				
92. My body is already slowing down due to the aging process.	1	2	3	4
93. I am sensitive to people making comments about weight in general.				
94. Being concerned about your looks is common.	1	2	3	4
95. Being accepted by others is most important.				
96. I am ashamed that other men think I am weak.	1	2	3	4
97. I play sports to feel masculine.				
98. I often restrict my food intake to avoid gaining weight.	1	2	3	4
99. Having gray hair makes me feel old.				
100. People who are lean and in shape have it all.	1	2	3	4
101. Fat people do not respect themselves.				
102. I am confident about the way I look compared to others.	1	2	3	4
103. Others' opinions of me are a big part of my self-esteem.				
104. I have to act aggressively so that other men don't think I am a wimp.	1	2	3	4
105. I get a sense of pride from my athleticism.				
106. A body lacking tone is gross and repulsive.	1	2	3	4
107. My job requires me to be physically fit.				
108. My self-esteem is boosted by my muscularity.	1	2	3	4
109. I track my nutritional intake (carbohydrates, fat, protein) to stay healthy.				
110. True masculinity means being in good physical shape.	1	2	3	4
111. I diet to avoid looking heavy.				
112. I am too young to worry about hair loss.	1	2	3	4
113. Society and the media equate fatness to being unattractive.				
114. I avoid drawing attention to my appearance by dressing conservatively.	1	2	3	4
115. I avoid dating to escape being evaluated.				
116. It is empowering to know that my appearance attracts others.	1	2	3	4
117. My appearance is the reason why I am always made fun of.				
118. Having an attractive physique would greatly improve my relationships.	1	2	3	4
119. I work out for the sole purpose of improving my appearance.				

Completely Disagree 1	Somewhat Disagree 2	Neither 3	Somewhat Agree 4	Completely Agree 5						
120.	People with good muscle tone are popular.					1	2	3	4	5
121.	Attractive people are respected more than others.					1	2	3	4	5
122.	I need to be muscular to compensate for other aspects of my appearance.					1	2	3	4	5
123.	I weigh myself often.					1	2	3	4	5
124.	Having less hair would lead to decreased confidence.					1	2	3	4	5
125.	Movie stars have perfect bodies.					1	2	3	4	5
126.	I lack the definition it takes to be considered physically attractive.					1	2	3	4	5
127.	I work hard to keep a healthy height to weight ratio.					1	2	3	4	5
128.	Being overweight as a child has changed how I view myself today.					1	2	3	4	5
129.	I want to love my body.					1	2	3	4	5
130.	My appearance is a reflection of my internal health.					1	2	3	4	5
131.	Romantic partners would like me less if they knew what I really looked like.					1	2	3	4	5
132.	I am invested in my appearance.					1	2	3	4	5
133.	I am happy with how I look.					1	2	3	4	5
134.	If you look good, you have higher self-esteem.					1	2	3	4	5
135.	I am antisocial because of my looks.					1	2	3	4	5
136.	I feel good when others compliment my appearance.					1	2	3	4	5
137.	I do what it takes to impress romantic partners.					1	2	3	4	5
138.	I hate that other men view me as only average sized.					1	2	3	4	5
139.	Attractive women intimidate me.					1	2	3	4	5
140.	I sometimes get upset that I do not look as good as other men.					1	2	3	4	5
141.	I must fit at least within the average range of appearance.					1	2	3	4	5
142.	The way you look affects everything in life.					1	2	3	4	5
143.	I feel that I am romantically desirable.					1	2	3	4	5
144.	I do not socialize with shallow people who may judge me.					1	2	3	4	5
145.	I want to be in good shape for health reasons, not for appearance.					1	2	3	4	5
146.	Having a favorable appearance will lead to more sex.					1	2	3	4	5
147.	Losing hair is something everybody goes through.					1	2	3	4	5
148.	I work out in order to be as huge, strong, and cut as I can.					1	2	3	4	5
149.	I feel physically inept when playing sports.					1	2	3	4	5
150.	I lift weights regularly in order to maintain muscle tone.					1	2	3	4	5
151.	A person's outward appearance dictates whether they will be accepted or not.					1	2	3	4	5
152.	I go to the gym often to maintain definition.					1	2	3	4	5
153.	I worry that people will judge me due to my weight.					1	2	3	4	5
154.	Seeing people who are physically ripped makes me want to work out.					1	2	3	4	5
155.	I control my life by controlling my weight.					1	2	3	4	5
156.	Worrying about others' opinions is a sign of insecurity.					1	2	3	4	5
157.	I need to feel superior and dominant over other men.					1	2	3	4	5
158.	Everyone wants to be bigger and stronger.					1	2	3	4	5
159.	It would feel great to have something to flex.					1	2	3	4	5
160.	I feel that my height draws negative attention to me.					1	2	3	4	5

Completely Disagree	Somewhat Disagree	Neither	Somewhat Agree	Completely Agree						
1	2	3	4	5						
161.	Others' opinions motivate me to work at my appearance.					1	2	3	4	5
162.	Personality is more important than appearance in dating.					1	2	3	4	5
163.	I have started a workout program to address my appearance concerns.					1	2	3	4	5
164.	I worry that my hair will go gray at a young age.					1	2	3	4	5
165.	People judge others first based on appearance.					1	2	3	4	5
166.	My appearance gives me a sense of pride.					1	2	3	4	5
167.	I stay in shape to be attractive to my partner.					1	2	3	4	5
168.	It is frustrating that society finds the athletic body as most appealing.					1	2	3	4	5
169.	I wish I had an ideal body.					1	2	3	4	5
170.	The better I look, the better looking the person I date can be.					1	2	3	4	5
171.	I am motivated to go to the gym when I feel fat.					1	2	3	4	5
172.	I am anxious about my appearance when going on job interviews.					1	2	3	4	5
173.	I keep up with fashion because it feels nice to look nice.					1	2	3	4	5
174.	It is nice to feel like I am in good shape.					1	2	3	4	5
175.	I am currently working on increasing my muscle size and definition.					1	2	3	4	5

SECTION II.

Please use the following scale to indicate your level of satisfaction with the discrete facial and body features mentioned:

Completely Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Completely Satisfied						
1	2	3	4	5						
1.	Nose					1	2	3	4	5
2.	Jawline/structure.....					1	2	3	4	5
3.	Adam's Apple.....					1	2	3	4	5
4.	Chin.....					1	2	3	4	5
5.	Eyebrows.....					1	2	3	4	5
6.	Eye shape.....					1	2	3	4	5
7.	Eye color.....					1	2	3	4	5
8.	Ears.....					1	2	3	4	5
9.	Lips.....					1	2	3	4	5
10.	Cheeks.....					1	2	3	4	5
11.	Forehead.....					1	2	3	4	5
12.	Head size/shape.....					1	2	3	4	5
13.	Teeth.....					1	2	3	4	5
14.	Neck.....					1	2	3	4	5
15.	Skin tone/blemishes.....					1	2	3	4	5
16.	Facial hair.....					1	2	3	4	5
17.	Facial symmetry.....					1	2	3	4	5

18. Muscle symmetry.....	1	2	3	4	5
19. Overall body proportion.....	1	2	3	4	5
20. Chest size/definition.....	1	2	3	4	5
21. Waistline.....	1	2	3	4	5
22. Abdomen.....	1	2	3	4	5
23. Shoulders.....	1	2	3	4	5
24. Triceps/back of arms.....	1	2	3	4	5
25. Biceps.....	1	2	3	4	5
26. Forearms.....	1	2	3	4	5
27. Wrists.....	1	2	3	4	5
28. Hands.....	1	2	3	4	5
29. Fingers.....	1	2	3	4	5
30. Back.....	1	2	3	4	5
31. Buttocks.....	1	2	3	4	5
32. Genitals.....	1	2	3	4	5
33. Thighs.....	1	2	3	4	5
34. Quadriceps (back of legs).....	1	2	3	4	5
35. Knees.....	1	2	3	4	5
36. Calves.....	1	2	3	4	5
37. Ankles.....	1	2	3	4	5
38. Feet.....	1	2	3	4	5
39. Toes.....	1	2	3	4	5
40. Height.....	1	2	3	4	5

SECTION III.

There are many different techniques that people use to alter their appearance. Listed below are some of the more common tactics that men use to change their weight, improve their physique, or alter their outward appearance in some way. Please use the following scale to indicate how likely you are to engage in such activities, or if you have already:

Not at all Likely 1	Somewhat Likely 2	Fairly Likely 3	Very Likely 4	Already did it/ Doing it currently 5
----------------------------------	--------------------------------	------------------------------	----------------------------	---------------------------------------------------

1. diet					
2. take supplements to gain bodyweight or muscle mass.	1	2	3	4	5
3. take medications to suppress appetite	1	2	3	4	5
4. use meal replacement products	1	2	3	4	5
5. use steroids	1	2	3	4	5
6. restrict food intake	1	2	3	4	5
7. avoid certain foods	1	2	3	4	5
8. eat more food	1	2	3	4	5
9. eat healthy, well-balanced meals	1	2	3	4	5
10. binge eat	1	2	3	4	5
11. purge (vomit)	1	2	3	4	5
	1	2	3	4	5

Not at all Likely 1	Somewhat Likely 2	Fairly Likely 3	Very Likely 4	Already did it/ Doing it currently 5
12. use laxatives				1 2 3 4 5
13. play sports				1 2 3 4 5
14. workout/lift weights				1 2 3 4 5
15. engage in physical training				1 2 3 4 5
16. overexercise				1 2 3 4 5
17. have cosmetic surgery on face (e.g., nose job, face life)				1 2 3 4 5
18. have weight-related cosmetic surgery (e.g., gastric bypass, stomach stapling)				1 2 3 4 5
19. have muscle implants (e.g., calf implants, pectoral implants)				1 2 3 4 5
20. shave body				1 2 3 4 5
21. have electrolysis				1 2 3 4 5
22. body waxing				1 2 3 4 5
23. have hair implants				1 2 3 4 5
24. use a hairpiece				1 2 3 4 5
25. use tanning bed/tanning agents				1 2 3 4 5
26. use skin creams/special cleansers				1 2 3 4 5
27. use hair care products (e.g., gels, mouse)				1 2 3 4 5
28. Use humor/joke about my imperfections				1 2 3 4 5
29. Buy newer/better fitting clothing				1 2 3 4 5
30. Use my personality to compensate for my physical imperfections				1 2 3 4 5

APPENDIX E
APPEARANCE INVENTORY FOR MEN (AIM)

AIM

This is a questionnaire about muscularity and appearance. There are no right or wrong answers, just your personal opinions. Please use the scale below to respond carefully to each item by circling one number for each statement:

Completely ----- Somewhat ----- Neither ----- Somewhat ----- Completely					
Disagree	Disagree	3	Agree	Agree	5
1	2	3	4	5	5
1. Increasing my muscle tone is a necessity for me.	1	2	3	4	5
2. I feel extreme pressures by society due to my excessive weight.	1	2	3	4	5
3. I worry my weight is not evenly distributed throughout my body.	1	2	3	4	5
4. I flirt more when I am satisfied with my appearance.	1	2	3	4	5
5. I diet in order to control my weight.	1	2	3	4	5
6. I work out to improve athletic performance.	1	2	3	4	5
7. I am conscious of my weight to avoid being teased and ridiculed	1	2	3	4	5
8. The way my partner views me is an important part of who I am.	1	2	3	4	5
9. I am concerned that will not find me attractive due to my weight.	1	2	3	4	5
10. I tend to wear clothing that hides my excess weight.	1	2	3	4	5
11. The first thing people notice about me is that I am overweight	1	2	3	4	5
12. Looking good for others is very important.	1	2	3	4	5
13. I avoid certain groups because I probably wouldn't be accepted.	1	2	3	4	5
14. I push myself physically to fulfill my potential.	1	2	3	4	5
15. Having a six-pack stomach is essential	1	2	3	4	5
16. I wear clothing that will not reveal my body shape.	1	2	3	4	5
17. I am sensitive to people commenting about weight in general.	1	2	3	4	5
18. I am ashamed that other men think I am skinny and weak.	1	2	3	4	5

Completely Disagree 1	-----	Somewhat Disagree 2	-----	Neither 3	-----	Somewhat Agree 4	-----	Completely Agree 5		
19. I get a sense of pride from my athleticism.						1	2	3	4	5
20. Society and the media equate fatness to being unattractive.						1	2	3	4	5
21. I avoid dating to escape being evaluated.						1	2	3	4	5
22. It is empowering to know my appearance attracts others.						1	2	3	4	5
23. My appearance is the reason why I am always made fun of.						1	2	3	4	5
24. I lack the definition it takes to be considered attractive.						1	2	3	4	5
25. I work hard to keep a healthy height to weight ratio.						1	2	3	4	5
26. Partners would like me less if they knew what I really looked like.						1	2	3	4	5
27. If you look good, you have higher self-esteem.						1	2	3	4	5
28. I feel good when others compliment my appearance.						1	2	3	4	5
29. I do what it takes to impress romantic partners.						1	2	3	4	5
30. I sometimes get upset I do not look as good as other men.						1	2	3	4	5
31. I feel that I am romantically desirable.						1	2	3	4	5
32. I lift weights regularly in order to maintain muscle tone.						1	2	3	4	5
33. I go to the gym often to maintain definition						1	2	3	4	5
34. I worry that people will judge me due to my weight						1	2	3	4	5
35. I feel that my weight draws negative attention to me.						1	2	3	4	5
36. People judge others first based on appearance.						1	2	3	4	5
37. My appearance gives me a sense of pride.						1	2	3	4	5
38. It is nice to feel like I am in good shape.						1	2	3	4	5
39. I am working on increasing my muscle size and definition.						1	2	3	4	5

Please rate your current level of satisfaction with the specific body sites or aspects of your appearance listed below using the following scale:

Completely Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Completely Satisfied	
1	2	3	4	5	
41. Abdomen	1	2	3	4	5
42. Chest size & definition	1	2	3	4	5
43. Waistline	1	2	3	4	5
44. Biceps	1	2	3	4	5
45. Teeth	1	2	3	4	5
46. Skin tone & blemishes	1	2	3	4	5
47. Triceps/back of arms	1	2	3	4	5
48. Facial & body hair	1	2	3	4	5
49. Forearms	1	2	3	4	5
50. Body symmetry	1	2	3	4	5
51. Thighs	1	2	3	4	5
52. Buttocks	1	2	3	4	5
53. Shoulders	1	2	3	4	5
54. Height	1	2	3	4	5
55. Calves	1	2	3	4	5

Please rate how likely you are to use the following techniques to manage your appearance using the following scale:

Not at all likely	Somewhat likely	Fairly likely	Very likely	Already did it/ doing it now	
1	2	3	4	5	
56. Lift weights	1	2	3	4	5
57. Play sports	1	2	3	4	5
58. Engage in physical training	1	2	3	4	5
59. Eat healthy, well-balanced meals	1	2	3	4	5
60. Buy better fitting, trendy clothing	1	2	3	4	5
61. Use hair care products (gels, mousse)	1	2	3	4	5
62. Rely on my personality	1	2	3	4	5
63. Use humor or jokes about my imperfections	1	2	3	4	5
64. Avoid certain foods	1	2	3	4	5
65. Use skin creams/cleansers	1	2	3	4	5
66. Eat more food	1	2	3	4	5
67. Diet	1	2	3	4	5
68. Take supplements to gain weight or mass	1	2	3	4	5
69. Shave body	1	2	3	4	5
70. Restrict intake	1	2	3	4	5

APPENDIX F
TABLES

Table 1. Group comparisons on demographic data and AIM sections

Variable	<u>University</u> (n=229)		<u>Gym</u> (n=68)		<u>Work Places</u> (n=33)		F	p
	M	SD	M	SD	M	SD		
Age	23.45	7.94	23.93	7.81	24.73	9.89	.40	.67
Height (in)	70.59	2.77	70.38	2.90	70.27	2.54	.29	.75
Weight (lb)	179.12	33.08	174.28	24.29	173.47	28.93	.95	.39
BMI	25.21	4.02	24.79	3.50	24.71	4.06	.47	.62
Days/wk of exercise	3.09	2.11	2.73	2.06	2.79	1.92	.91	.40
AIM – Section 1	467.95	85.88	481.73	84.46	482.40	76.22	.57	.57
AIM - Body Sites	161.01	27.51	156.39	32.83	160.63	30.59	.59	.55
AIM - Strategies to Manage Appearance	66.06	19.55	66.60	16.30	64.37	13.11	.15	.86

Table 2. Varimax rotated factor matrix on the 3-factor, 39-item AIM

<i>Item</i>	<i>Factor 1</i>	<i>Factor 2</i>	<i>Factor 3</i>
	(WF)	(MF)	(AM)
2. I feel extreme pressures by society due to my excessive weight.	.635	.044	-.056
3. I worry my weight is not evenly distributed throughout my body.	.576	-.090	.122
5. I diet in order to control my weight.	.557	.188	.114
7. I am conscious of my weight to avoid being teased and ridiculed.	.638	.073	.140
9. I am concerned that will not find me attractive due to my weight.	.730	.074	.105
10. I tend to wear clothing that hides my excess weight.	.734	.014	.034
11. The first thing people notice about me is that I am overweight.	.660	.014	-.064
13. I avoid certain groups because I probably wouldn't be accepted.	.636	-.123	.135
16. I wear clothing that will not reveal my body shape.	.681	-.032	.031
17. I am sensitive to people commenting about weight in general.	.570	.111	.043
18. I am ashamed that other men think I am skinny and weak.	.640	.098	-.083
21. I avoid dating to escape being evaluated.	.653	.038	-.081
23. My appearance is the reason why I am always made fun of.	.667	.058	-.052
24. I lack the definition it takes to be considered attractive.	.632	-.092	-.053
26. Partners would like me less if they knew what I really looked like.	.542	-.014	-.036
30. I sometimes get upset I do not look as good as other men.	.573	.031	.081
34. I worry that people will judge me due to my weight.	.665	.098	-.009
35. I feel that my weight draws negative attention to me.	.631	.068	-.100
1. Increasing my muscle tone is a necessity for me.	.128	.627	.139
6. I work out to improve athletic performance.	-.031	.626	.111
14. I push myself physically to fulfill my potential.	-.125	.603	.129
15. Having a six-pack stomach is essential.	.137	.511	-.036
19. I get a sense of pride from my athleticism.	-.143	.545	.102
25. I work hard to keep a healthy height to weight ratio.	.185	.579	.047
32. I lift weights regularly in order to maintain muscle tone.	-.086	.764	.094
33. I go to the gym often to maintain definition.	.110	.767	.027
39. I am working on increasing my muscle size and definition.	-.013	.762	.097
4. I flirt more when I am satisfied with my appearance.	.121	.158	.505
8. The way my partner views me is an important part of who I am.	.106	-.053	.594
12. Looking good for others is very important.	.117	.122	.532
20. Society and the media equate fatness to being unattractive.	-.027	-.084	.642
22. It is empowering to know my appearance attracts others.	.028	.171	.607
27. If you look good, you have higher self-esteem.	.049	.175	.532
28. I feel good when others compliment my appearance.	-.116	.134	.661
29. I do what it takes to impress romantic partners.	.126	.049	.508
31. I feel that I am romantically desirable.	-.169	.098	.527
36. People judge others first based on appearance.	.007	-.064	.612
37. My appearance gives me a sense of pride.	-.065	.118	.553
38. It is nice to feel like I am in good shape.	-.165	.127	.575

Note: Factor 1 (WF) = Weight Focus; Factor 2 (MF) = Muscle Focus; Factor 3 (AM) = Appearance Motivation

Table 3. Reliability and subscale statistics for the Appearance Inventory for Men

Scale	M (SD)	SEM	Range	Cronbach's Alpha
Weight Focus	38.2 (13.8)	0.79	18-81	0.91
Muscle Focus	26.4 (7.7)	0.43	9-45	0.84
Appearance Motivation	42.2 (8.4)	0.48	12-58	0.83
Key Areas for Men	33.1 (12.1)	0.68	15-75	0.93
Strategies for Appearance Management	44.2 (12.8)	0.73	15-75	0.84

Table 4. Correlations between AIM and validity measures

	WF	MF	AM	KAM	SAM
MBSRQ-AE	-.536**	.206**	.229**	.526**	.062
MBSRQ-AO	.204**	.398**	.425**	-.116	.331**
MBSRQ-FE	-.399**	.240**	.258**	.245**	.103
MBSRQ-FO	-.250**	.646**	.278**	.220**	.333**
BASS	-.417**	.156*	.061	.577**	-.151*
BES	-.397**	.192**	.081	.653**	-.003
SIBID	.562**	.069	-.026	-.296**	.225**
SMAQ-DM	.021	.531**	.379**	-.038	.471**
SMAQ-PAM	.225**	.397**	.293**	-.135	.393**
SATAQ	.368**	.313**	.315**	-.167*	.414**
SES	-.337**	.105	.182*	.350**	.019
ZUNG	.141**	-.060	-.167*	-.332**	-.078
MAS	.402**	-.033	-.071	-.254**	-.016
MCSDS	-.037	.111	.027	.063	-.043
Surgency	-.202**	.073	.125	.134	.118
Agreeableness	-.207**	.040	.149	.056	.151*
Conscientiousness	-.174*	.119	.118	.152*	.037
Emostability	-.265**	.095	-.049	.271**	.027
Intellect	-.128	-.033	.144	.046	.104
WF	1.00	.156*	.044	-.429**	.142
MF	.156*	1.00	.363**	.101	.407**
AM	.044	.363**	1.00	-.020	.390**
KAM	-.429**	.101	-.020	1.00	-.092
SAM	.142	.407**	.390**	-.092	1.00

Note: WF = Weight Focus; MF = Muscle Focus; AM = Appearance Motivation; KAM = Key Areas for Men; SAM = Strategies for Appearance Management; * p<.01; ** p<.001

APPENDIX G
IRB APPROVAL



Office of Research

October 24, 2003

Daniel Agliata
University of Central Florida
Department of Psychology
P.O. Box 161390
Orlando, FL 32816-1390

Dear Mr. Agliata:

With reference to your protocol entitled, "Development and Validation of an Assessment Measure for Male Body Image," I am enclosing for your records the approved, executed document of the UCFIRB Form you had submitted to our office.

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur. Further, should there be a need to extend this protocol, a renewal form must be submitted for approval at least one month prior to the anniversary date of the most recent approval and is the responsibility of the investigator (UCF).

Should you have any questions, please do not hesitate to call me at 823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

A handwritten signature in black ink, appearing to read "Chris Grayson".

Chris Grayson
Institutional Review Board (IRB)

Copies: Stacey Tantleff-Dunn, Ph.D.
IRB File

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