CONTINGENT SELF-WORTH AND SOCIAL PHYSIQUE ANXIETY AS PREDICTORS OF BODY DISSATISFACTION IN YOUNG ADULT MEN

By

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Abstract

Male body image is a growing issue that involves men's perceptions, attitudes, and emotions associated with men's physical appearance. The purpose of this study was to test a model where self-worth derived from physical appearance and social approval influences social physique anxiety, and thereby influences men's body image dissatisfaction. Specifically, this study predicted that self-worth contingencies would positively predict social physique anxiety and positively predicts men's body image dissatisfaction (e.g., muscularity and weight/body fat). This study also assessed social physique anxiety as a mediator for the relations between contingencies of self-worth and men's body image dissatisfaction. Using data obtained from a sample of 765 young adult males, between the ages18 and 29 years (M = 23.86; SD = 3.52), the original model did not fit; however, a modified model demonstrated adequate fit [723.74 (240), $p < .00$; CFI: .95, RMSEA: .052; SRMR: .049]. Results from this study indicated that self-worth that is based on social approval was a weak predictor of weight/body fat dissatisfaction. Furthermore, self-worth derived from physical appearance was a moderate predictor of social physique anxiety and a weak predictor of men's muscularity dissatisfaction. No mediation effect was found between the contingencies of self-worth and men's body image dissatisfaction.

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Chapter 1

Introduction

Trends suggest that young adult males are more concerned about their physical appearance (e.g., *body image*) than at any other time in modern history (Barlett, Vowels, & Saucier, 2008; Field et al., 2005). For example, recent studies estimate that more than 60% are generally displeased with their physical appearance, 71% are frustrated with their weight (i.e., body fat) and 90% desired a more muscular physique (Ferguson, 2013; Frederick et al., 2007; D. A. Frederick, Peplau, & Lever, 2006; Peplau et al., 2009). Body image is generally related to the way in which people evaluate the size and shape of their physiques (Pegg, Grieve, Derryberry, & Chandler, 2009). Historically, body image research largely focused on sociocultural pressures for women and adolescent girls to attain unrealistically thin figures. However, during the past decade, there has been an increased interest in men's discontent with their physiques (McCreary & Saucier, 2009; Tantleff-Dunn, Barnes, & Larose, 2011). Previous research has suggested that men's discontent is linked to the *ideal male physique*, as portrayed throughout popular culture and a variety of digital and print media (Barlett et al., 2008; Leit, Pope, & Gray, 2001; Pope, 1998). This physique is characterized by a body with a small waist, well-defined chest, broad shoulders, large biceps, and "six-pack" abdominal muscles (Olivardia, Pope, Borowiecki, & Cohane, 2004); and the pervasive use of the idealized male body throughout the media has been a sociocultural factor that has influenced an alarming number of young men's beliefs about the need to alter their bodies in order to achieve a leaner and more muscular physique.

Similar to the thin ideal for women, the idealized male physique is largely unattainable for most men; however, young men have continued to internalize these standards and subsequently have reported they want a leaner and more muscular physique (Grogan, 2010;

Tantleff-Dunn et al., 2011). Unlike women, however, who may be dissatisfied with a not-so-thin body image, men are more likely to be concerned about being judged as being insufficiently muscular or that their body fat does not allow their musculature (e.g., their abdominal muscles) to be adequately displayed (Brunet, Sabiston, Dorsch, & McCreary, 2010; Hagger, Hein, & Chatzisarantis, 2011; Hagger & Stevenson, 2010; Tod, Edwards, & Hall, 2013).

Purpose of the Study

The purpose of this study was to examine cognitive/intrapersonal factors that also affect men's body image, and so, their beliefs about the need to alter their body, and to test a model of how these factors lead to body image dissatisfaction. The specific factors examined included the constructs of contingent self-worth (CSW), social physique anxiety (SPA) and men's body image dissatisfaction (BID). The model hypothesized how these three basic cognitive constructs might contribute to the development of unhealthy outcomes associated with BID in men. More, specifically, the model (see Figure 1; to be discussed in detail at a later point) proposes men's negative attitudes about their muscularity and weight/body fat (i.e., body image dissatisfaction) result from self-worth that is conditional and based upon achieving social appearance norms (individually and mediated through social physique anxiety).

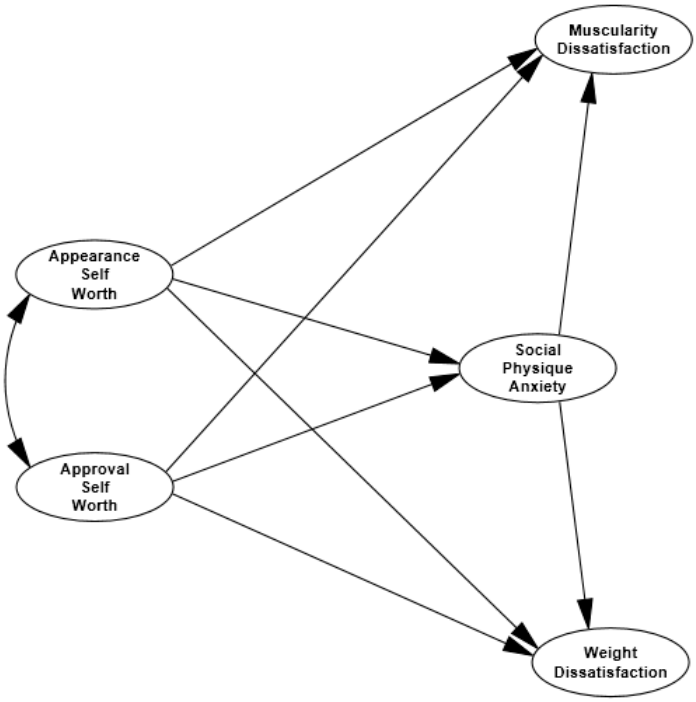
Each of these constructs and their empirical or hypothesized relations with each other is briefly outlined in the following section.

Overview of the Constructs

Body image dissatisfaction (BID). Negative thoughts, attitudes, and beliefs (i.e., discontent) about one's own physical appearance subsequent to self-perceived failure to achieve social appearance norms are known as body image dissatisfaction (BID). Theoretically, BID has been recognized as a multidimensional construct associated with investment and evaluative

Figure 1.

Modeled Latent Constructs



Note: Lines with single arrows represent regression paths and direct effects between latent constructs (i.e., ovals) and lines with two arrows represent covariance between constructs.

components of body image, such that people internalize social appearance norms and devalue their physical appearance when they have concluded they are unable to meet these standards (Cash, 2004). Additionally, men's BID is based on incongruities (actual or perceived) between their own physique and the ideal male body, which is known as a *self/ideal discrepancy* (Cash, 2011; Higgins, 1987). Past studies of men have consistently shown that BID in men is correlated with increased depression, lowered self-esteem, excessive exercise, steroid abuse, and unhealthy consumption of supplements used to increase muscularity or decrease body fat or both (Cafri et al., 2005; Cafri, Yamamiya, Brannick, & Thompson, 2006; Parent, 2013; Yager & O'dea, 2014). Consequently, physical appearance has become an essential component to men's overall psychological and physical wellbeing (Cafri et al., 2005; Flament et al., 2012; Menees, Grieve,

Mienaltowski, & Pope, 2013). Research that is more recent has found that men with BID are also more likely to experience lowered self-esteem, decreased self-worth, and increased social anxiety associated with concerns about being negatively judged by other people (Bergstrom, 2009; McCreary & Saucier, 2009).

Contingent Self-Worth. Self-worth that is based on perceived successes and failures within particular social domains is known as contingent (or contingencies of) self-worth (CSW; Crocker & Wolfe, 2001). For men, CSW has been correlated with tendencies to continuously evaluate their own abilities to achieve social standards within self-referent domains in order to maintain self-esteem/worth (Crocker & Wolfe, 2001). This is accomplished by either seeking validation from others (i.e., asking) or through internal evaluations through social comparisons (Patrick, Neighbors, & Knee, 2004). Social psychologists have started to examine how basing one's self-esteem primarily on external domains can heighten individuals' sensitivity to tangible threats, as well as increase anticipation for perceived threats to their sense of self-worth (Crocker, Luthanen, Cooper, & Bouvrette, 2003; Crocker & Wolfe, 2001; Deci & Ryan, 1995; Kernis, 2003). Self-esteem and self-worth are concepts that are often used interchangeably, though recently, they have been identified as unique concepts. Self-esteem is commonly used to describe one's own self-acceptance based upon the person's successes or failures (James, 1890; Rosenberg, 1965; Tomas & Oliver, 1999). According to Rosenberg and others, self-esteem is involved in global evaluations of the self that are assumed stable over time (i.e., trait). However, self-esteem can also fluctuate when people are challenged to reevaluate their subjective self-image due to events occurring within their interpersonal environments (Leary, 1999; Markus, 1977). Some scholars have suggested that global assessments of individuals' levels of self-esteem (e.g., high and low) do not fully explain peoples' reactions to social threats, and therefore

cannot entirely capture peoples' sense of worth (Crocker, Brook, Niiya, & Villacorta, 2006; Kernis, 2005).

Crocker and Wolfe (2001) have argued that CSW better explains individuals' responses to social threats, because unlike traditional notions about self-esteem, CSW is domain specific. That is, CSW determines the types of events considered most meaningful to peoples' overall self-view (e.g., self-esteem), and subsequently, one's sense of self-worth is derived from the person's perceived successes and failures within these self-referent domains. Furthermore, Crocker and Wolfe have suggested that social threats are only psychologically and interpersonally relevant to the domain or domains in which people have based their self-worth. For example, a man whose self-worth is derived from his physical appearance would be more concerned and experience greater distress from a comment about the size and shape of his biceps, than by a comment about his perceived level of intelligence.

Social Physique Anxiety. Anxiety associated with BID is referred to as *social physique anxiety* (SPA), and it has been linked to young men's concerns about their muscularity and body fat, as well as lowered self-esteem (Hart, Leary, & Rejeski, 1989). Additionally, SPA has been associated with men's misperceptions about how they are viewed by other people, especially if they believe they cannot meet social body ideals or that they will be socially rejected for not meeting these norms (Knauss, Paxton, & Alsaker, 2008; Noser & Zeigler-Hill, 2014; Sawaoka, Barnes, Blomquist, Masheb, & Grilo, 2012). SPA has been found to contribute to increased negative attitudes about one's own physique and more frequent engagement in unhealthy body change behaviors (i.e., weightlifting, excessive exercise, and disordered eating) as a way to increase muscularity or decrease body fat due to interpersonal evaluations (Duggan & McCreary, 2004; McCreary & Saucier, 2009).

Limitations in Current Literature

Although the literature on the topic of body image dissatisfaction has increased empirical knowledge of the correlates of BID in men, there are two primary limitations associated with the clinical application of this literature. First, while the ideal male body is associated with muscularity and leanness, previous studies of male BID have focused primarily on men's muscularity concerns (cf. Cafri et al., 2005; McCabe & Ricciardelli, 2004; Pope, 1998). Few studies include both aspects of men's body image as outcome variables. This limitation is associated with the heterogeneous nature of men's body dissatisfaction, where some men want to gain weight, some men only desire to increase lean muscularity, and some men want to decrease body fat as a way to better display musculature. Although the current study did not control for all aspects of muscularity and weight, both body image constructs were included to address this limitation.

Second, various predictor variables have been identified as correlates of body image concerns and dissatisfaction; however, less is known about the nature of recurring negative attitudes associated with tendencies to experience heightened body consciousness and if these are influenced by men's tendencies to base their self-worth on meeting physical appearance standards (Ferguson, 2013; Pope, Phillips, & Olivardia, 2000). It is important to investigate the influence of CSW in men because physical appearance is a salient social domain that has been previously associated with men's overall sense of self-worth, which is fundamental to the experience of BID (Bergstrom, 2009; Grogan, 2010). Previous notions about BID may not fully capture men's body image discontent, and recognizing the salience of men's self-worth that is invested in physical appearance is essential in order to facilitate treatment of these issues in therapy. Although the constructs included in this study's proposed model are all related to men's

physical appearance, an extensive review of the literature did not yield a single study that examined them collectively. In addition, only two studies examined CSW and men's BID. The current study examined a model that included these constructs as a way to address this limitation.

Research Questions and Hypotheses

The following questions were addressed and hypotheses were tested as they relate to the proposed structural model (see Figure 1):

Question I. What are the relationships among (a) the contingencies specific to the domains of appearance and approval self-worth, (b) social physique anxiety, and (c) muscularity and weight/body fat concerns in men?

Hypothesis I. It was hypothesized that contingencies of self-worth would influence social physique anxiety, which would subsequently influence muscularity and weight/body fat concerns in young men.

Hypothesis II. It was also hypothesized that approval and appearance self-worth would be positively related to social physique anxiety, and positively related to muscularity and weight/body fat concerns.

Question II. Does social physique anxiety (SPA) mediate the relationship between approval and appearance contingencies of self-worth and men's muscularity and weight/body fat concerns?

Hypothesis III. It was hypothesized that SPA would indirectly effect (i.e., mediate) the relationship between approval and appearance contingencies of self-worth and men's muscularity and weight/body fat concerns.

Summary

The goal of this study was to advance the empirical understanding of underlying social/cognitive (intrapersonal) processes related to the experience of BID in men by testing a structural model of the relations between the constructs of conditional self-worth (CSW), social physique anxiety (SPA) and body image dissatisfaction (BID). Of particular focus in the current study, were the relationships between men's tendencies to emphasize physical appearance as part of their identity, the degree by which they are dissatisfied with the size and shape of their physiques, and how these are influenced by their concerns about their bodies being socially evaluated by others. Since BID has been linked to internalization of sociocultural appearance standards and self/ideal discrepancies SPA and CSW appear to be well-suited constructs to evaluate underlying factors associated with the experience of BID in men (Brunet et al., 2010; Crocker, Luhtanen, Cooper, & Bouvrette, 2003; Crocker & Wolfe, 2001; McCreary & Saucier, 2009). The inclusion of SPA as an affective measure of BID may further explain underlying cognitive processes relevant to the experience of BID. The application of the contingencies of self-worth (CSW) model potentially offers a more thorough explanation of the experience of BID in men, because it is focused on identifying the salience of self-referent domains that are assumed important to one's overall sense of self-worth.

Importance of the Current Study

Through an understanding of the relations among these variables, it is hoped that counseling psychologists and other health care providers who commonly treat issues associated with BID, such as anxiety and low self-esteem in young men, may better understand and recognize how underlying body image might contribute to the etiology of these issues presented in therapy. Because young men with BID are likely to continue internalizing unrealistic

appearance standards and subsequently enter therapy to address negative psychological outcomes associated with underlying body image issues, it is important for counseling psychologists, as researchers and health service providers, to understand these factors to better recognize and treat men's body image issues.

The remainder of this dissertation includes a review of the previous literature relevant to the constructs and model under investigation, the methods and procedures used in the study, the study's data analysis results, and a discussion of the finding. Chapter 2 provides an extensive literature review of male BID, a review of CSW and SPA within a framework of male body image, and the research questions and hypotheses. Chapter 3 provides a detailed description of the methods, including the sample and demographic information, measures included in the study, procedures, and analysis. Chapter 4 summarizes the results of the analyses. Chapter 5 discusses the results and implications of the findings, the limitations of the study, and recommendations for future research.

Chapter II

Literature Review

This chapter begins with a summary of key terms and issues related to men's body image dissatisfaction. This is followed by a discussion of social influence models. The chapter then provides a review of the two key psychological constructs [(e.g., contingent self-worth (CSW) and social physique anxiety (SPA)]. Finally, relevant research studies associated with the constructs included in this study and are examined in relationship to the current study.

Operational Definitions

Men's *body image dissatisfaction* (BID) is characterized by negative thoughts and beliefs associated with the degree to which men are satisfied, or dissatisfied, with their physical appearance (Tylka, Bergeron, & Schwartz, 2005). *Contingent self-worth* (CSW) signifies the sense of worth derived from successes or failures within self-referent and socially valued areas of one's own life (Crocker, & Knight, 2005; Crocker & Wolfe, 2001). *Social physique anxiety* (SPA) refers to concerns about one's own physique being negatively evaluated by others (Hart. et al., 1989). In the current study, these three constructs (e.g., BID, CSW, and SPA) represented the three domains of body image postulated by Cash and colleagues, and are discussed in more detail throughout this chapter. Other terms included in this dissertation include (a) *physical appearance*, which denotes men's physical body, or physique, as related to muscularity and weight/body fat, and (b) *internalization* and *investment, which* are conceptually similar terms that are used within the body image literature to refer to men who embrace idealized body norms as a desired personal standard (Jones, 2004). In the current study, the term *investment* is used to describe this process.

Male Body Image Dissatisfaction

Body image is as a intricate blend of introspective thoughts and feelings people have about the size and shape of their bodies (Cash, 2011). These attitudes stem from interpersonal experiences that influence individuals' beliefs about the importance of appearance to their overall sense of self-worth and psychological well being (Cash, Theriault, & Annis, 2004). For many men, muscular development and body tone are two core features that influence their body image (Bergeron & Tylka, 2007; Tylka et al., 2005). Though muscularity is often the primary focus for young men, limiting body fat is also salient to their overall body image because body fat conceals muscle (Cafri & Thompson, 2007; Jones, Bain, & King, 2008). For men, the discrepancy between their own body and the physique they prefer is one of the most significant contributors their negative attitudes and body image dissatisfaction (Grossbard, Neighbors, & Larimer, 2011)

Several recent studies show that men generally are not satisfied with their current body and desire one that is more muscular and lean than their own. Frederick et al. (2007) performed a series of studies across the United States that assessed the degree of discrepancy between men's self-reported current body type compared to their self-perceived ideal body type. For each study, participants viewed two sets of silhouette drawings (eight per set) each with various male body types presented side-by-side. One set measured muscularity and one measured body fat. Participants selected their current body type, as they perceived it and then selected the body type they preferred. Their first study included 68 college men (18 to 23 years old) from the Midwest. Of these, 90% indicated they wanted a body type that was more muscular than their own, and 43% preferred a body with less body fat. In Study Two, 100 male college students (M= 18.78 years) from the Northeast region of the United States completed the same task as the men in

Study One. Results indicated that 91% preferred a more muscular body, and 38% preferred a body with less body fat. In addition to identifying self-ideal discrepancies, men in the study responded to a survey about reasons they wanted a more muscular physique. More than 90% responded it would make them feel: (a) *stronger*, (b) *sexier* (c) *more confident,* (d) *healthier,* and (e) *more attractive to women.* Between 70 and 84% reported that it would make them: (a) *more masculine,* (b) better at sports*,* (c) better able to defend oneself*,* and (d) *healthier.* Another 17% reported that it would make them feel smarter or more intelligent. For study three, 56 male college students from the Western region of the United States (M_{age} = 21.98 years) selected their current body and ideal body from the silhouette drawings. Of the participants, 96% wanted a more muscular physique and 39% preferred a body with less fat. Across these studies, 90 to 96% wanted a more muscular body, whereas 39 to 43% wanted a body that was leaner than their own. The researchers did not report demographic information for this study.

In a similar study, Peplau et al. (2009) surveyed men's attitudes about their overall appearance, preoccupied thoughts about body fat, and the degree to which they believed their bodies influenced the quality of lives. Peplau and colleagues recruited participants through Internet websites designed for hosting research studies. Of the heterosexual male participants (n = 646, aged 28.38 years [SD = 9.55]), 24% reported they were dissatisfied with their overall appearance, 12% were preoccupied with concerns about body fat, 13% reported their bodies negatively impacted their overall quality of life, and 22% stated the quality of their sex life was negatively influenced by their body image.

In a similar study Kelley, Neufeld, and Musher-Eizenman (2010) assessed 285 college students (n_{male} =111) attitudes about muscularity and weight. Participants ranged in age from 18 and 26 years (M = 18.8). This study revealed that men's desire to increase muscle mass <u>and</u> lose

weight/body fat predicted body-esteem (i.e., satisfaction with specific body areas and perceived body inadequacy due to their body size and shape). Of the male participants, 34% wanted to gain muscle and lose weight, whereas 18.0% only wanted to increase muscularity, and 16.4% only wanted a leaner body type.

Though it is clear that men are not completely satisfied with their physical appearance, less is known about how to address this in a clinical setting. Body image dissatisfaction in men has been linked to a host of mental health issues, such as depression, lowered self-esteem, social physique anxiety, social avoidance, eating disorders, and others (Parent, 2013). However, these links are most often found as a result of correlational studies designed to test the construct validity of new body image assessment measures (Tiggemann, 2011). Although prevalence rates of these issues are inconsistent across the literature and rarely reported, for example studies that report BID is linked to lowered self-esteem, typically report the correlation coefficient associated with a self-esteem scale and the body image scale being used. In spite of this, it is important for those who work in mental health settings to understand factors related to men's BID.

Psychological Components

A recent review by Burlew and Shurts (2012) discussed the clinical factors related to men's BID. Though they utilized literature focused more on severe clinical disorders (e.g., Body Dysmorphic Disorder, Obsessive Compulsive Disorder, and eating disorders), they discussed the implications for men who do may not meet clinical thresholds of these disorder, yet are still negatively affected by body image. In fact, most of the male body image literature is based upon men with subclinical thresholds of BID; therefore, applying treatments and assessment used for these disorders may not capture the nature of men's experience with BID. Burlew and Shurts (2012) also noted that men who enter into therapy may not present with overt BID specific

issues/symptoms, such that they may not specifically identify their presenting concern as specific to body image, yet their body image concerns may be a primary focus of their overall levels of distress. They suggest that therapists ask questions related to eating and exercise routines, body image concerns (size and shape of physique), as well as tendencies to compare one's own body to others. Additionally, they suggest that clinicians inquire about tendencies to invest in physical appearance, or the degree to which men adopt social body ideals as an important component to their sense of self-worth.

Because body image involves interrelated thoughts and feelings related to physical appearance, clinicians may benefit from conceptualizing men's BID from a social cognitive perspective. The two most common conceptual foundations for the development and maintenance of men's BID include the social influence model and the social cognitive model of body image (Cash, 2011).

Two common conceptual approaches used for investigating men's muscularity and weight/body dissatisfaction include the social cognitive model (Cash, 2002, 2011) and the sociocultural influence model (Jones, 2004; Tylka, 2011).

Sociocultural model. According to this model, body image and ideal body standards (i.e., the lean and muscular male physique) are conveyed through a variety of channels (e.g., family, peers, media) and consequently influence the way men think and feel about the size and shape of their physique (Field et al., 2005; Monro & Huon, 2005; Stanford & McCabe, 2005). Some men internalize these messages and become dissatisfied with their bodies, which can manifest into desires to increase muscularity or decrease body fat or both (Tylka, Bergeron, & Swartz, 2005). For example, in a recent study, Tylka (2011) evaluated a structural model using 473 college males ranging in age from 18 to 42 years ($M = 20$). The study revealed that muscle

dissatisfaction predicted internalization of social body norms as well as the degree to which they perceived others wanted them to gain muscle. Internalization and perceived pressure from others accounted for 40% of the variance in muscularity dissatisfaction. Additionally, weight dissatisfaction predicted perceived pressure to lose weight from a romantic partner and men's willingness to use extreme weight loss strategies (i.e., restrictive eating or weight loss supplements) to decrease body weight. These two variables accounted for 55% of the variance in weight dissatisfaction.

Similarly, Grammas and Schwartz (2009) surveyed 202 male college students from a large university in the Southern region of the United States. Their mean age was 22.08 (*SD* = 3.88); and of these men 37% identified as Asian, 28% as Caucasian, 15% as Latino, and 14% as African American. They completed measures that assessed attitudes about muscularity and weight/body fat dissatisfaction, awareness of sociocultural male body norms, and internalization of social body norms. Results revealed that Caucasian, African American, and Latino men reported similar levels of body dissatisfaction. Asian men reported slightly higher body image satisfaction; however, Asian men's mean scores only differed by approximately 1.5 points compared to males in the other ethnic groups.

The researchers found that internalization was a predictor of men's muscularity and weight dissatisfaction. Interestingly, this study revealed that ethnicity was not a significant predictor of men's levels of body dissatisfaction. A limitation to this study that was the use of the Sociocultural Attitudes Towards Appearance Questionnaire (SATQ; Heinberg, Thompson, & Stormer, 1995). This measure was originally developed for women, and though it has been modified for men, there is limited information on the validity for use with male samples. The researchers noted that revised version of the instrument (the Sociocultural Attitudes Towards

Appearance Quesionaire-3) has been validated for use with men and includes items to measure muscularity attitudes (Karazsia & Crowther, 2008).

Overall, the sociocultural model has been criticized for relying primarily on sources of influence. According to a review by Cash (2011), this model, on its own suggests that most people would either have BID or are at risk of developing BID. What this model does not offer is an evaluation of individual factors that contribute to BID in men. Although most people may internalize social norms, only some people develop BID. Nevertheless, the sociocultural influence model remains a useful as a way to conceptual how social body norms are conveyed, as well as potential factors that could contribute to BID.

Social cognitive model. Cash's (2011) social cognitive body image model focuses on three core dimensions of body image. The first is the *investment* dimension that designates the psychological importance ascribed to physical appearance and the meanings attached to body image self-evaluations. Next, is the *evaluative* dimension that refers to personal satisfaction, or dissatisfaction, with one's physical appearance. Finally, the *affective* dimension reflects emotions associated with physical appearance, specifically, anxiety about others' negative judgments. Additionally, it recognizes that body image affect and evaluation involve historical and proximal (current/daily) events that influence one's body image self-schema. A primary facet of this model is the relevance of self-ideal discrepancies, where men's body image continually evolves based recurrent self-evaluations and cognitive processes associated with their attitudes about their muscularity and weight/body fat dissatisfaction.

According to Cash (2011), body image attitudes involve evaluative and investment dimensions that are based on schematic processes (i.e., appearance schema) that play a significant role in the way people think and feel about themselves Cash, 2011; Beck & Haigh,

2014). These schema organize, refine, and store information about one's social environments in the form of internal dialogues and mental recollections that subsequently shape how people process/interpret feedback from their social environments with regard to their self-referent information (Beck & Haigh, 2014). Cash adapted concepts about schema to body image, where appearance schema represents "core, affect-laden assumptions and beliefs about the importance and influence of one's appearance in life, including the centrality of appearance to one's sense of self" (Cash, 2002, p.42).

In general, schema function to protect people from interpersonal threats by triggering affective responses (e.g., anxiety) to counter perceived danger. However, they can also function in maladaptive ways that result in biased interpretations of external situations, exaggerated responses to perceived interpersonal threats, and negative self-evaluations derived from perceived intrapersonal faults (Beck & Haigh, 2014; Cash, Melnyk, & Hrabosky, 2004; Markus, 1977). Although this model is not a theory of body image, it underlies most body image research and conceptual aspects of individual factors relevant to BID (Cash, 2011). Most often, this model is used concurrently with the sociocultural influence model, as social factors influence body image attitudes. Biased self-schema and hypersensitivity to perceive threats to one's body image self-evaluation are core features of body image dissatisfaction (Adams, Turner, & Bucks, 2005).

Adams and colleagues (2005) conducted a qualitative analysis of men's attitudes and thoughts about BID. They interviewed 14 men between the ages of 18 and 35 years (M =23.3, SD = 3.8). Interviews lasted between 20 to 60 minutes. Of the participants, 13% reported as Caucasian, one reported as "white/middle-eastern." Themes emerged from four domains identified in this study included (a) social domain - *pressure to be perfect or conform to societal*

standards with regard to physical appearance, (b) interpersonal domain - *being seen* and *importance of appearance to others*, (c) intrapersonal domain – *important of body to self-image,* and (d) *social presentation domain* – influence of weight and not appearing fit influences mood. Though this study represents a small, homogeneous sample, it does identify specific themes among men that are consistent with the influence of body image on men's thought processes. For example, a majority of participants in Adams, et al., (2005) recounted that a major facet to their experience of BID involved the importance (i.e., investment) of physical appearance to one's self-evaluations and the evaluations of others.

Although, this model is not a stand-alone theory, most male body image research has utilized a combination of sociocultural and social cognitive models to conceptualize men's BID. However, two recent studies applied this model and found support for it as a useful way to further awareness of, and potential treatment for men's BID.

Social physique anxiety. McCreary and Saucier (2009) applied Cash's (2002; 2011) model to examine the affective experience of social physique anxiety (SPA) which is a specific type of anxiety experienced when one perceives that other people are negatively evaluating their physical appearance (Hart, Leary, & Rejeski, 1989) and examined the relationship between men's BID and SPA, specifically muscularity dissatisfaction. McCreary and Saucier (2009) surveyed 182 undergraduate males (M = 19 years). Participants completed measures assessing their body image attitudes related to muscularity dissatisfaction, SPA, and their tendencies to compare their physiques to those of other men. McCreary and Saucier proposed a model that hypothesized muscularity dissatisfaction would influence men's tendencies to compare their muscularity and body weight, which would subsequently influence men's perceptions that other people were negatively evaluating them. Results from McCreary and Saucier suggested that

their model fit, which indicated that SPA influenced muscularity dissatisfaction and body comparisons in men. Additionally, their data supported the model and provided partial support for Sabiston (2014) hypothesis that SPA may serve as a measure of body image affect. According to McCreary and Saucier's (2009) model, a schematic activation possibly occurred when the participant's thoughts about their own body manifested into self-evaluation triggered by comparing their bodies to those of other men own bodies. Thus, the comparison served as a proximal event which subsequently activated body related schematic processes (Cash, 2011). It is important to note that this was a cross-sectional study and no experimental conditions were included; thus, any hypothesis about SPA as an affective process should be examined further.

Brunet et al. (2010) evaluated a model that included SPA as a mediator and proposed that SPA was an affective response to lowered self-esteem. Thus, low self-esteem influenced SPA, which influenced participants' attitudes about muscularity and weight/body fat dissatisfaction. They tested this model with a sample of 190 adolescent males who ranged in age from 13 and 19 years (M =15.4, SD = 1.11). The data supported the model and they found that self-esteem influences SPA, which influence adolescents' attitudes about their muscularity and weight/body dissatisfaction.

It is important to note that social physique anxiety research has been used primarily in exercise and health science. Therefore, previous literature on SPA and men's body image is scant. Indeed, a recent review examined 129 articles from 1989 to 2013, and noted that only seven articles examined SPA in adult men (Sabiston, 2014).

Social physique anxiety has been used to measure negative body perceptions. Previously, in a study of adolescents, SPA was positively related to body dissatisfaction and weigh concerns (Kowalski, Mack, Crocker, Niefer, & Fleming, 2006). Additionally, SPA has been found to

negatively correlate with appearance cognitions (Brunet et al., 2010; McCreary & Saucier, 2009). Sabiston and colleagues (2014) noted that SPA might be a useful measure of body image affect (i.e., affective domain), as it is associated with self-evaluative processes potentially linked to self-schematic processes.

Contingent self-worth. To date, most research on male body image has focused on interpersonal factors and attitudes related to increasing muscularity and decreasing body fat; however, it has become apparent that there is more to men's body image and BID. Recently, body image scholars have suggested that men's investment in physical appearance as a salient part of their self-concept; therefore, it is necessary to examine men's sense of self-worth in relation to the affective and evaluative domains of body image (Cash, 2011). Contingent self-worth is a useful construct that can potentially serve as a means of studying men's body image, or physical appearance investment.

Self-esteem and self-worth are often used interchangeably, though there is a distinction between the two. Self-esteem is a global construct that refers to emotions associated with one's perceived overall worth and social value, whereas CSW is self-worth derived from successes and failures within a self-referent social domain (Crocker & Wolfe, 2001; Kernis, 2003). Crocker and Wolfe (2001) postulated that individual's typically experience relatively stable levels of trait self-esteem, and when fluctuations in state self-esteem occur, they remain relatively close to one's baseline levels of trait self-esteem. However, when threats are linked to a self-referent domain (i.e., physical appearance), greater fluctuations will occur for individual's whose global evaluation of self is conditional upon meeting external standards established for that domain (Kernis, 2003). Said differently, people will experience greater fluctuations in self-esteem when they base their self-worth upon achieving socially defined standards within a domain they have

adopted as a part of their identity (Crocker & Wolfe, 2001; Deci & Ryan, 1995). For example, prior research on CSW has found that college students who have based their self-worth on academic success are more likely to experience more negative affect, depression, and engage in self-denigration following a failure in their studies (Crocker, & Luhtanen, 2003; Sargent, 2006).

To date, several studies have examined CSW's role in women's body image, with only one study that has included a sample of men. For example, Patrick, Neighbors, and Knee (2004), conducted two studies that examined the role of appearance self-worth in women's self-perceived attractiveness after viewing television advertisements. They also assessed affect and overall body esteem (i.e., satisfaction). Study One involved 88 undergraduate college women (*Mage* = 21.52 years, SD = 4.04 years), who reported their ethnic background as Caucasian (26%), Latina (26%), African American (24%), Asian (20%), and Other (4%). The researchers randomly assigned participants to one of two conditions and instructed them to either rate the physical characteristics of the models in advertisements (condition one) or focus on some "other" aspects of the advertisement (condition two). They found that women with higher CSW reported feeling more shame about their bodies after viewing and rating the models. Additionally, they discovered that women who reported higher levels of CSW, regardless of experimental condition, were more likely to compare themselves to the advertisements. Because women in the control condition also reported comparing themselves to the models, the researchers reported that social comparison tendencies were involuntary for women with higher self-reported CSW. This notion led others to study the effects CSW and heightened body consciousness, or chronic surveillance for cues/threats in domains from which they derived their self-worth.

Two recent studies expanded on Patrick and colleagues' (2004) work and evaluated women's preoccupations with their bodies and CSW. Overstreet and Quinn (2012) examined all

seven domains of contingent self-worth outlined by Crocker and Wolfe (2001) to test if these specific domains were unique elements of self-worth. These domains include, (a) *Physical Appearance* and (b) *Others' Approval*, as well as (c) *Competition*, or performing better than others; (d) *Academics*, which is determined by academic success; (e) *Family Support*, refers to approval and love received from family members; (f) *Virtue*, refers to being viewed as a good, moral, or worthwhile person; and (g) *God's Love*, refers to the meaning of one's relationship to a higher power, or spirituality as a basis of their self-worth (Crocker & Wolfe, 2001). Participants included 337 female college students (Caucasian, $n = 222$; African American, $n = 115$) who were recruited from the psychology participant pool. They ranged in age from 17 and 30 years ($M = 18.86$, $SD = 1.59$). Overstreet and Quinn found that physical appearance self-worth and approval self-worth were positively related to heightened body surveillance (i.e., the extent to which they monitor their body or are preoccupied with their physical appearance). The researchers also found that heightened body consciousness (or surveillance) was positively associated with self-worth that is contingent upon domains of physical appearance and social approval. A primary strength of this study was the novel application of CSW to examine self-evaluative and investment domains of body image; however, this study only included women participants; therefore, the results might not generalize to men.

In a similar study, Noser and Zeigler-Hill (2014) extended the work of Overstreet and Quick (2012) and (Patrick et al., 2004). The researchers surveyed 465 female undergraduate students attending a Midwestern university. Participants completed instruments related to appearance self-worth, body surveillance, appearance self-esteem, and global self-esteem. Noser and Zeigler-Hill's (2014) study revealed a positive relationship between physical appearance and body image self-esteem (body image satisfaction), though this relationship was mediated by

body surveillance (recurrent self-evaluation of one's physical appearance). In other words, those who derive their self-worth from physical appearance are more likely to be concerned about their physical appearance and regularly evaluate aspects of their physical body. Additionally, the study found that women expressed more body shame and appearance self-esteem when they based their self-worth on attaining physical appearance standards. The findings from this study were consistent with Patrick and colleagues (2004) who found that body image dissatisfaction was related to self-worth derived from external contingencies. Though these studies represented consistency within the literature, these studies are only generalizable to college-aged women.

To date, only one study has researched the influence of CSW on men's body image. Grossbard, Lee, Neighbors, and Larimer (2009) surveyed a sample of 148 male college students (M_{age} = 18.49 years). Of the men surveyed, 64% self-reported as Caucasian, 16% as Asian, 1.4% as African American, 1.4% as Indian/Alaskan Native, and 10.3% Other. Participants completed a global measure of contingent self-worth (i.e., not domain specific self-worth). In addition to this, they also completed measures related to their desires to increase musculature and their concerns about body shape/weight. Grossbard and colleagues found relationships between CSW and men's muscularity and body weight dissatisfaction (*r's* = .34 and .36, $p < .001$). However, their results are not directly generalizable to the current study because Grossbard and colleagues used a measured global self-worth, which does not allow for the assessment of self-worth specific to physical appearance. Another limitation, was the sample included men who were part of a larger study that addressed college alcohol use, therefore a significant portion of the sample were classified as heavy drinkers. Therefore, the results of this study may have limited generalizability.

The results of the above reviewed studies are of primary interest to the development of

the hypothesized model of tested in the current study. Though most of the current CSW literature that addresses body image include studies focused exclusively on women BID, it is reasonable that they could be adapted to investigate the influence CSW has on men's body image concerns and BID. It is important to reiterate that the focus on men's body image is for muscularity and body fat, whereas women tend to focus on bodyweight; however, the underlying thought processes may be similar. The variables used in all of the CSW studies referenced here are readily adaptable to the social cognitive domains of body image outlined by Cash, as the variables in each of these studies focused women's attitudes about their physical appearance (i.e., self-evaluation), investment (e.g., comparison/discrepancy between own body and idealized social norm), and affective responses (e.g., shame).

Previous research on men's body image has recognized that self-esteem correlates with BID; however, scholars have criticized researchers' reliance on global self-esteem (cf. Baumeister, Campbell, Krueger, & Vohs, 2003). This is largely attributed to discoveries that measurement of global self-esteem does not accurately identify the source from which one's self-worth is derived. Additionally, it has been said that global measures do not fully differentiate between overall feelings of worth, and the sense of self derived from specific domains that are more meaningful to people's identities and perceived social value (Leary, 1999; Crocker; Deci & Ryan). Therefore, it is important to assess the domain on which people may base or invest their self-worth. Using these recommendations, the current study evaluates self-worth derived from physical appearance, specifically with regard to muscularity and weight/body fat.

Summary

Men's body image is based on a complex blend of thoughts and emotions related to self-evaluative processes. This chapter presented a summary of literature on men's body image, as

related to self-ideal discrepancies that have been found to contribute to men's BID. Specifically, muscularity and weight/body fat dissatisfaction, which were followed by an overview of the sociocultural and social cognitive models used to conceptualize men's BID. Throughout the literature review, the case for the current study was presented within the BID, SPA, and CSW sections.

Cash's (2002; 2011) model is based on a cognitive behavioral foundation, which has been used throughout clinical work for a variety of issues. In addition to being a useful way for conceptualizing the development and maintenance of BID in men, it could adapt to further research and treatment of BID in men. Previous research has suggested that Cash's model should be integrated more frequently into research as a way to inform the conceptualization of underlying thought processes associated with interpersonal situations that contribute to men's BID (Brunet et al., 2010; McCreary & Saucier, 2009; Tod & Edwards, 2013). Furthermore, previous theoretical and empirical work suggests that SPA may be a useful measure of affective processes associated with activation of schematic processes that contribute to BID (Brunet et al., 2010; Sabiston, 2014).

Finally, previous research suggests that CSW may be a useful measure of investment dimensions associated with men's BID (Grossbard et al., 2009). Contingencies of self-worth have been shown to influence women's body image and may be an applicable to men's BID. Previous results from studies that reported low self-esteem is linked to men's BID demonstrates that men's perceived worth is linked to their physical appearance; however, CSW is a construct that focuses on specific domains where people's sense of worth is contingent upon success within that domain. Using this construct to examine men's BID may be more useful than

assessing global self-esteem, which may not fully explicate men's investment in their physical appearance.

Chapter III

Method

This study was designed to test a theoretical model of intrapersonal factors related to men's *body image preoccupations*. Specifically, this study examined the relationships between the degree to which men's self-worth is based on physical appearance and social approval and their self-biased attitudes about their physiques (e.g., muscularity and body fat). This relationship was hypothesized to be mediated by men's concerns about their bodies being scrutinized by others. This chapter describes the participant sample that was studied, the instruments used and procedures followed, and the analyses used to address the research questions.

Participants

Participants were a convenience sample of 765 heterosexual male participants between the ages of 18 to 29 (M = 23.9, SD = 3.53) who completed an online survey. The majority of the sample (n = 500) fell between the ages of 20.3 and 27.4 years. Tables 1 and 2 provided a detailed description of the demographic information for the sample. Approximately 64% of the sample (n = 491) identified as Caucasian, 15.4% (n = 118) as African American, 10.8% (n = 83) as Hispanic/Latino, 5.9% (n = 45) as Asian, 0.7% (n = 5) as American Indian or Alaska Native, and 0.4% (n = 3) as Native Hawaiian or Other Pacific Islander. Twenty individuals (2.6%) did not disclose their racial/ethnic background. All of the participants in this study identified as heterosexual. In terms of education, 75% (n = 578) of respondents reported they previously attended college, and 59.7% (n = 457) stated they were currently enrolled. Of those who attended college, 38.2% (n = 293) earned a two- or four-year degree and 7.9% (n = 60)

completed post-graduate or professional degrees. Average time to complete the survey was approximately 10 minutes.

Table 1.
Participants' Demographic Information N = 765

Characteristic	N	%	*M*	*SD*
Age (years)	-	-	23.86	3.52
Weight (lbs.)	-	-	187.68	44.83
Height (inches)	-	-	70.86	2.94
BMI (kg/m^2)[a]	-	-	26.25	5.78
Underweight[b]	21	2.6	17.72	0.66
Healthy Weight	341	43.1	22.19	1.74
Overweight[b]	242	30.2	22.08	1.48
Obese[b]	139	16.4	33.83	2.94
Severely Obese[b]	22	2.2	45.26	4.12
Relationship Status				
In Relationship/Married	309	40.3	-	-
Single	418	54.7	-	-
Other[c]	38	4.9	-	-
Currently Enrolled in College	309	40.3	-	-
Education				
High School Graduate or GED	187	24.4	-	-
Some College, but less than one year	225	29.5	-	-
Associate Degree	112	14.6	-	-
Bachelor's Degree	181	23.6	-	-
Master's Degree	45	5.9	-	-
Professional Degree	9	1.2	-	-
Doctoral Degree	6	0.8	-	-

Note: N = 765.[a] Centers for Disease Control and Prevention (CDC) categorize Body Mass Index (BMI) as < 18.50 = underweight, 18.50 to 24.99 = normal weight, ≥ 25.00 = overweight, ≥ 30.00 = obese. [b] The World Health Organization (WHO) provide additional subcategories for thinness (< 16.00 = severe, 6.00 to 16.99 = moderate, 17.00 to 18.49 = moderate) and obesity (25.00 to 29.99 = pre-obese, 30.00 to 34.99 = class I, 35.00 to 39.99 = class II, ≥ 40.00 = class III). [c] Other includes Widowed (*n* = 3, 0.4%), Never Married (*n* = 19, 2.5%), Separated (*n* = 8, 1%), or Divorced *n* = 8, 1%).

Instruments

Participants completed an online survey comprised of subscale items from the Contingent Self-Worth Scale (Crocker, Luhtanen, Cooper, & Bouvrette, 2003), the Social Physique Anxiety Scale (Hart, Leary, & Rejeski, 1989; Motl & Conroy, 2000; 2001), and the Male Body Attitudes Scale (Tylka, Bergeron, & Schwartz, 2005).

Contingencies of Self-Worth Scale (CSWS). This measure examines multiple categories of contingent self-worth (CSW), that is, self-relevant domains by which peoples' self-esteem is derived. Sample items include *"When I think I look attractive, I feel good about myself,"* and *"I don't care if other people have a negative opinion about me."* The CSWS is a reliable measurement tool with samples of young men (α = .79). Overall, the full CSWS consists of 35 Likert items rated on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*) with higher scores indicating greater CSW. The instrument consists of seven subscales of five items each and assesses levels of self-worth categorized into specific domains, including: (a) *Physical Appearance (PA)*, individuals' beliefs about their worth in terms of their physical appearance; (b) *Others' Approval (AO)*, the degree by which people derive self-worth through perceived approval from others; (c) *Competition*, individuals' beliefs about their worth determined by performing better than others; (d) *Academics*, individuals' beliefs about their worth in terms of academic success or performance; (e) *Family Support*, individuals' perceptions of approval and love received specifically from family members; (f) *Virtue*, peoples' beliefs about their worth in terms of being a good, moral, or worthwhile person; and (g) *God's Love*, peoples' beliefs about their worth in terms of importance of religious faith in their lives. Crocker and colleagues (2001; 2003) examined the factor structure and psychometric properties of the CSWS. Each of the seven five-item subscales demonstrated good internal consistency as measured by Chronbach's alpha (average α = .85; range: .82 to .96).

Because the contingency of self-worth theory is based on specific domains, Crocker et al., (2003) suggested researchers select the subscales relevant to their research, rather than use all seven subscales. Crocker stated that previous published and unpublished research consistently

Table 2.

Means and Standard Deviations

Race	N	Age	Weight	Height	BMI	Appearance	Approval	Muscularity	Body Fat	SPA
American Indian	5	24	161.80	69.20	23.66	20.80	13	31.60	18.60	14.80
	0.7%	*5.29*	*25.12*	*4.21*	*1.90*	*5.07*	*8.80*	*7.54*	*6.84*	*6.94*
Asian	45	22.80	173.31	68.76	25.69	26.29	21	32.29	26.93	19.02
	5.9%	*3.27*	*36.86*	*3.06*	*4.60*	*4.48*	*5.69*	*10.07*	*10.46*	*7.07*
African American	118	24.33	192.98	70.67	27.14	22.08	15.99	32.36	24.49	17.06
	15.4%	*3.57*	*43.72*	*3.36*	*5.77*	*6.10*	*7.12*	*10.51*	*10.19*	*6.75*
Hispanic/Latino	83	23.75	190.73	69.84	27.54	24.30	17.14	33.54	28.47	19.60
	10.8%	*3.35*	*42.83*	*2.87*	*6.14*	*5.58*	*7.11*	*11.74*	*10.14*	*7.07*
Hawaiian/Other	3	20.00	160	71	22.50	25.33	22.33	45.67	21	22.33
Pacific Islander	0.4%	*2.65*	*5*	*5*	*2.81*	*12.42*	*11.72*	*20.55*	*6.08*	*11.59*
Caucasian	491	23.87	187.64	71.25	25.95	23.91	19.88	32.37	25.74	18.37
	64.2%	*3.52*	*44.97*	*2.68*	*5.88*	*5.51*	*6.73*	*11.23*	*10.81*	*6.88*
Prefer not to say	20	24.30	187.75	71.85	25.50	23.05	17.15	30.10	25.85	17.90
	2.6%	*3.91*	*33.47*	*2.91*	*3.91*	*6.72*	*7.23*	*13.94*	*10.72*	*7.79*
Total Sample	765	23.86	187.68	70.86	26.25	23.78	18.94	32.48	25.85	18.32
		3.52	*43.83*	*2.94*	*5.78*	*5.68*	*7*	*11.21*	*10.63*	*6.95*

Note. BMI = Body Mass Index. Standard deviation units are in *italics*. Appearance = appearance self-worth, Approval = approval self-worth, Muscularity = muscularity concerns, Body Fat = weight concerns, SPA = social physique anxiety. Height measured in total inches and weight measured in pounds.

shows that the PA and AO subscales have been previously correlated "at, or around .80 to .86," and suggested either including them as covariates or collapsing the two subscales into one scale (personal communication, November 12, 2013).

The properties of the two subscales are based on results from the factor analytic studies conducted by Crocker and colleagues (2001; 2003b). Factor loadings indicate moderate to high internal consistency (PA, $\alpha = .50$ to .81) and (OA, $\alpha = .47$ to .78); adequate internal consistency (PA, $\alpha = .83$) and (OA, = .87); and sufficient test-retest reliability at three, five, and eight months (PA, $\alpha = .76, .73, .67$, *p*'s < .001) and (OA, .76, .66, .66, *p*'s < .001). These subscales demonstrate good reliability with diverse samples of young men, including non-Hispanic Caucasians (PA, $\alpha = .87$) and (OA, $\alpha = .84$); African Americans (PA, $\alpha = .82$) and (OA, $\alpha = .80$); and Asian Americans (PA, $\alpha = .87$) and (OA, $\alpha = .85$). For this study, both subscales demonstrated adequate reliability (PA, $\alpha = .70$) and (OA, $\alpha = .83$).

Discriminant validity for the PA and OA subscales was established by: (a) small negative correlations with the Rosenberg Self-Esteem scale (PA, $r = -.21$) and (OA, $r = -.22$, $p < .01$), which is a measure of trait self-esteem (Rosenberg, 1965); (b) weak negative and weak positive correlations with the Narcissistic Personality Inventory (PA, $r = -.09$) and (OA, $r = .13$, *p*'s < .01), which assesses seven components of narcissism (NPI-40; Raskin & Terry, 1988); (c) weak negative correlations the Marlowe-Crowne Social Desirability Scale (PA, $r = -.28$) and (OA, $r = -.20$, *p*'s < .01), which measures the extent people present themselves in favorable terms (Crowne & Marlowe, 1964); and the Big Five Inventory (BFI) assesses five personality dimensions (John, Naumann, & Soto, 2008). Of the five BFI scales, Neuroticism was the only dimension that was statistically correlated with the PA and OA subscales (PA, $r = .27$, $p < .01$)

and (OA, r = .26, p < .01). These results indicate the CSWS measures a unique construct specific to contingent self-worth.

Social Physique Anxiety Scale. The Social Physique Anxiety Scale (SPAS; Hart et al., 1989) was originally developed as a 12-item measure. Higher scores indicate greater levels of concern about being negatively judged by others based on physical appearance. It has been revised as a 9-item and 7-item assessment tool (Martin, Rejeski, Leary, McAuley, & Bane, 1997; Motl & Conroy, 2001). Hart and colleagues designed the SPAS as measure of individuals' concerns and distress about other negative evaluations of their physiques. Sample items include, *"I wish I was not so uptight about my physique,"* and *"There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.* The SPAS consists of seven Likert items rated on a 5-point scale (1 = *not at all characteristic of me*, 5 = *extremely characteristic of me*). According to Motl and Conroy (2000), the original 12-item version demonstrated good internal consistency (α = .88) and good test-retest reliability (r = .82) over an eight-week period (Hart et al., 1989). Motl and Conroy (2000; 2001) raised concerns about factorial validity, item redundancy, and wording that may not be salient to men. As a result, they introduced the seven-item version of the SPAS to address these concerns. The current study used the SPAS-7. Previous studies have demonstrated adequate internal consistency values of .72 to .93 for the SPAS-7 (Motl et al., 2001; Reilly, Yancura, & Young, 2012). Convergent validity is supported by positive correlations (r = .47) with social anxiety scales, such as the Objectified Body Consciousness Scale, which is a measure of peoples' tendencies to think about and monitor their bodies (McKinley & Hyde, 1996; Motl & Conroy, 2000). Discriminant validity is supported by negative correlations (r = -.36 to -.82) with measures of body esteem (e.g., Franzoi & Shields, 1984), which identify levels of satisfaction for

peoples' physical condition, physical attractiveness, and physical strength (Hart et al., 1996). Scott, Burke, Joyner, and Brand (2004) found a strong interclass correlation value of R = .94, 95% CI = .93 to .96, indicating the SPAS-7 version should produce accurate and reliable scores when used with young males (Motl, & Conroy, 2000; 2001; Scott et al., 2004). Reliability estimates for the SPAS-7 in the current study were (α = .89).

Male Body Attitudes Scale (MBAS). Men's body image dissatisfaction was measured with the Male Bodies Attitudes Scale (MBAS; Tylka et al., 2005). This scale consists of 24 Likert items rated on a 6-point scale (1 = *never*, 6 = *always*) with higher scores indicating higher levels of body dissatisfaction. Sample items include *"I think that my arms should be larger (i.e., more muscular),"* and *"I am concerned that my stomach is too flabby."* The MBAS includes three subscales that assess levels of dissatisfaction with muscularity, body fat, and height; however, only the muscularity and body fat subscales were used for the current study. The MBAS has demonstrated adequate overall internal consistency for both the body fat subscale (α = .93*)* and the muscularity subscale (α = .90). According to Tylka and colleagues (2005), the MBAS has demonstrated adequate overall test-retest reliability over a two-week period (r = .91); subscale reliabilities were: muscularity subscale (r = .88) and body fat subscales (r = .94). Previous studies support MBAS reliability estimates .88 to .92 (Chandler et al., 2009). Reliability estimates for the current study were (α = .90) for the muscularity subscale and (α = .91) for the body fat subscale. Convergent validity has been supported by positive correlations with the Physical Condition (r = .65) and Upper Body Strength (α = .55) subscales from the Body Esteem Scale (BES; Franzoi & Herzog, 1986). This measure is also correlated with other body image dissatisfaction measures, such as the Muscularity Body Image subscale from the Drive for Muscularity Scale (r = .54) (DFMS; McCreary & Sasse, 2000; McCreary, Sasse,

Saucier, & Dorsch, 2004). Discriminant validity for this measure was originally determined by a non-significant relationship with Balanced Inventory of Desirable Responding (r = - .14) and the Swansea Muscularity Attitudes Questionnaire (r = .31; Edwards & Launder, 2000; Paulhus, 1994). Concurrent validity was obtained through negative correlations with measures of self-esteem, with a small to moderate correlation (r = - .40) with the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and a moderate to strong relationship (r = .57) with eating disorder symptomology, as measured by the Eating Attitudes Test-26 (Garner & Garfinkle, 1979). Because the muscularity and weight constructs were originally developed as subscales that included items parceled/testlets (e.g., aggregated items sorted into smaller groupings) based on specific domains of body image (i.e., arms, legs, feeing fat, etc.), these parcels were used in the measurement and structural models of this study.

Procedures

The University of Kansas IRB: Human Subjects Committee of Lawrence (HSCL) approved this study (see Appendix A). A 51-item online survey comprised of the items from the Contingencies of Self-Worth Scale (CSWS) Physical Appearance and Others' Approval subscale, the Male Body Attitudes Scale (MBAS) Muscularity and Body Fat subscales, and the Social Physique Anxiety Scale -7 (SPAS-7) was created to assess men's attitudes about their bodies. The survey was administered in the order of the numbered items from each measure. The survey was conducted electronically over a period of 11 months, from May 2013 to April 2014. Two universities in the Midwest and one in the Northeast region were selected to facilitate recruitment. These universities were chosen based on previous experience as a graduate student. Additionally, local community venues that authorized posting of the flyer on their respective community bulletin boards were utilized for recruitment. A convenience sample of 789

participants was introduced to the study in three ways. First, flyers posted at various university and community venues (see Appendix E). Next, email requests were sent to university faculty that asked them to forward a web link to their students (see Appendices F and G). Finally, survey links were published on three social networking websites, including Facebook, Craigslist, and Backpage (see Appendix H). Interested participants accessed the survey via web link hosted on the Qualtrics webpage server (see Appendix I) where they could review the informed consent, which included the study's HSCL approved guidelines, a more detailed explanation of the purpose and procedures of the study, as well as estimated time of completion, and possible risks/benefits of participation.

Participants were told that the purpose of the study was to better understand factors associated with men's body image attitudes, how this influenced self-worth, and overall well being. No compensation was offered for participation, and participation was strictly voluntary. Those who elected to participate provided consent and completed the survey on their own accord. Participants were directed to two eligibility requirements of this study. The first was related to participant's age; the second was specific to gender. Individuals who indicated that they were under the under the age of 18 years or did not identify with the male gender were informed that they were not eligible to participate. Participant's self-identified sexual orientation was assessed; those who did not identify as heterosexual were not included in the analyses. Previous studies have found that gay men's BID predominately focused on thinness (and thus was more consistent with BID in women) and presented with higher prevalence rates of BID when compared to heterosexual men (Duggan & McCreary, 2004; Morrison, Morrison, & Sager, 2004; Yelland & Tiggemann, 2003). Therefore, to reduce confounding variables, only heterosexual males were included in the current study. Finally, the participants responded to the

remaining demographic questions before moving on to the items related to CSW, SPA, and BID. All items were forced responses and participants were prompted to address incomplete items before submitting their responses through the Qualtrics online platform. Following the completion of the survey, participants were thanked for their time and informed that the survey had concluded.

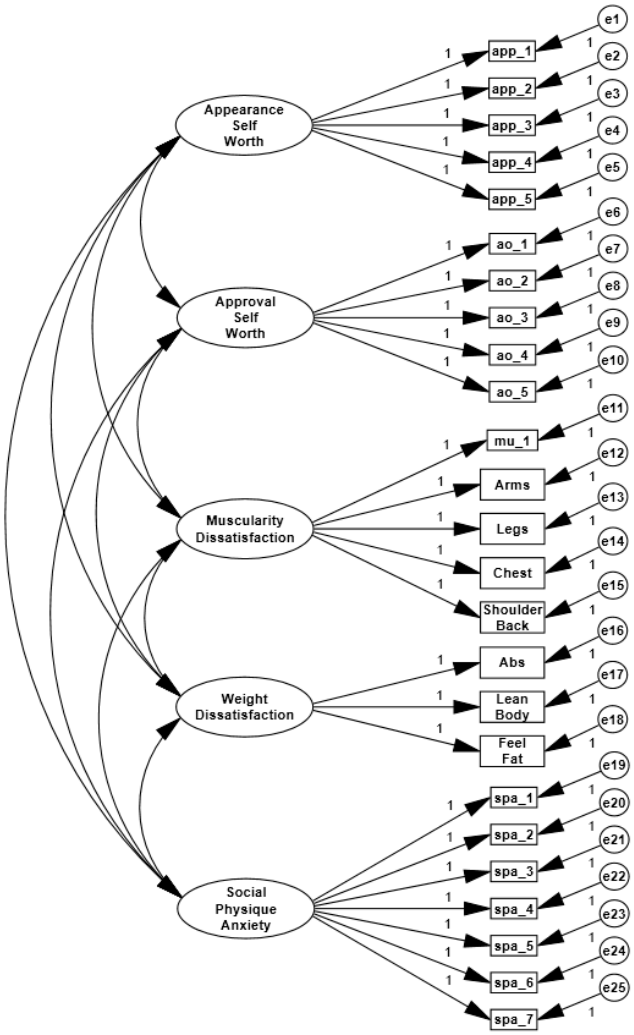
Planned Analysis

Prior, and subsequent, to data collection, power analyses were performed using R-software (Preacher & Coffman, 2006, Retrieved from http://quantpsy.org/). With power set at .80, $\alpha = .50$, the minimum sample size required to reject the null hypothesis was 417. The current study's sample size (N = 765) exceeded the recommended minimum. *Post hoc* analysis indicated sufficient power (.986) to reject the null hypotheses.

Research Question I: Testing the Hypothesized Model Fit. Two primary analyses were performed to test the hypothesized model. First, confirmatory factor analysis (CFA) was used to evaluate whether the variables (e.g., survey items and item parcels) actually measured the latent constructs they were assumed to measure (Byrnes, 2010). Next, structural equation modeling (SEM) was used examine the fit of the hypothesized model. Both analyses were performed using Amos (version 20; Arbuckle, 2011) statistical software. Maximum likelihood estimation procedures, which are the most commonly used estimation procedure for SEM analyses (Kline, 2011), were used for this study. Model fit was based on three global fit indices recommended by Hu and Bentler (1999) and Schermelleh-Engel (2003), including: (a) χ^2 test of fit statistic, (b) Comparative Fit Index (CFI) > .95 for good fit, > .90 for acceptable fit, (c) Root Mean Square Error of Approximation (RMSEA) ≤ .05 for good fit, < .08 for acceptable fit, and (d) Standardized Root Mean Square Residual (SRMR) < .05 for good fit, < .10 for acceptable fit.

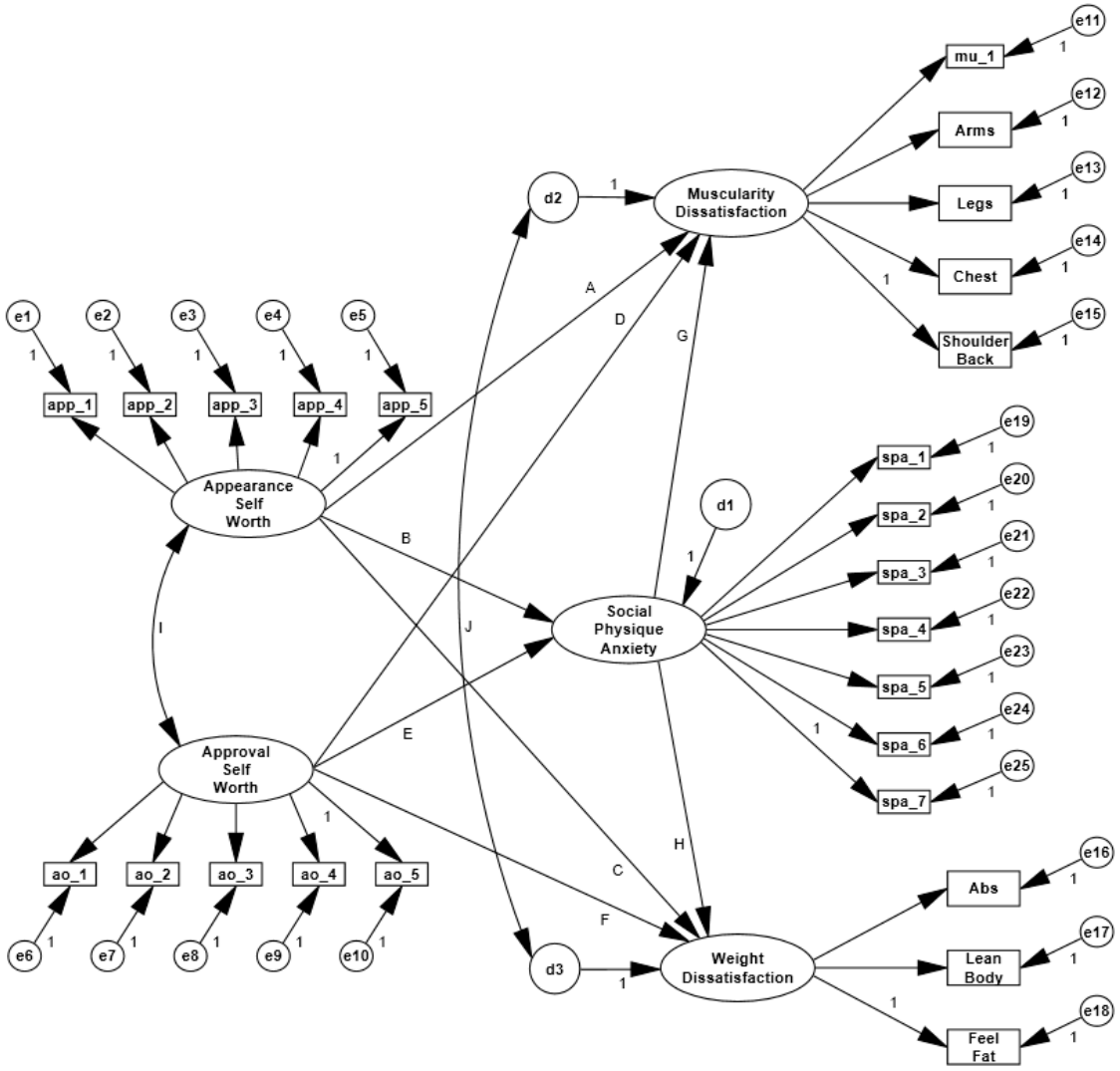
Figure 2.

Measurement Model



Note: Ovals represent latent constructs (e.g., Approval Self-Worth), smaller rectangles represent measured variables/scale items (e.g., ao_1), larger rectangles represet item parcels for the body image measures (e.g,. Abs). *Note:* The parcels are based on the orginal design of the scale, where individual items were grouped (i.e., parceled) based on similar content. Smaller circles represent error variance associated with measured variables (e.g., e6), whereas larger circles represent error variance for the latent constructs (e.g., d3). Single headed arrows represent regression paths and double headed arrows indicate covaraince between constructs and error terms.

Figure 3.
Hypothesized Model



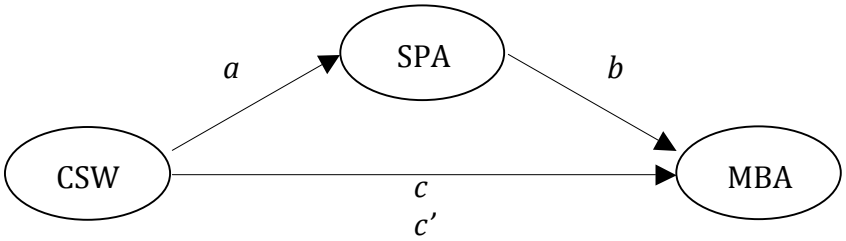
Note: Ovals represent latent constructs (e.g., Approval Self-Worth), smaller rectangles represent measured variables/scale items (e.g., ao_1), larger rectangles represet item parcels for the body image measures (e.g,. Abs). The parcels are based on the orginal design of the scale, where individual items were grouped (i.e., parceled) based on similar content. Smaller circles represent error variance associated with measured variables (e.g., e6), whereas larger circles represent error variance for the latent constructs (e.g., d3). Single headed arrows represent regression paths and double headed arrows indicate covaraince between constructs and error terms.

Research Question II: Mediation. Mediation was evaluated using procedures for estimating indirect effects. According to Kenny (2014, Retrieved from

http://davidakenny.net/cm/mediate.htm#IE), this is a more contemporary approach to mediation analysis, where indirect effects signified the amount of mediation. Indirect effects are calculated as the product of direct path (*a*) and direct path (*b*), where (*ab*) represented the amount of mediation (Kenny, n.d.; Kline, 2011). In the current study, SPA was hypothesized to mediate the relationships between the self-worth constructs and the BID constructs, including: (a) appearance self-worth → SPA → muscularity dissatisfaction, (b) appearance self-worth → SPA → weight/body fat dissatisfaction, (c) approval self-worth → SPA → muscularity dissatisfaction, and (d) approval self-worth → SPA → weight/body fat dissatisfaction. Full or partial mediation was assessed based on the statistical significance of direct paths that comprised the indirect effects, such that, significant direct effects (interpreted as path coefficients) would indicate partial mediation and non-significant paths would indicate full mediation (Kline, 2011; Tylka & Andorka, 2012).

Figure 4.

Visual Depiction of Mediation Using Indirect Effects



Chapter IV

Results

The present study examined predictors of BID in young adult men using structural equation modeling (SEM). This research tested hypotheses that men who whose self-worth was contingent upon physical appearance or social approval or both, would be more concerned about others negatively evaluating their physiques, and subsequently have more negative attitudes about their bodies. Additionally, men's concern about being negatively evaluated by others was hypothesized to attenuate relations between contingent self-worth and men's attitudes about their bodies. This chapter outlines the evaluation of the proposed model and outlines the summary of the major research findings.

Preliminary Analyses

Data Screening. Before data analyses, data were inspected for missing data, outliers, and normality (Tabachnick & Fidell, 2007). No issues related to heteroscedasticity, multicollinearity, or linearity were identified. Of the 789 survey responses, 24 cases were excluded from further analyses. Decisions to remove these participants were based on the following:

(a) One respondent failed to complete two-thirds of the survey and so was removed from the study; no other missing data were identified in this data set.

(b) Inspection of participants' Internet protocol (IP) addresses revealed that four participants completed the survey twice and so all four were dropped from the analyses, and

(c) Nineteen respondents were identified as multivariate outliers, and were subsequently removed from the study.

Univariate and multivariate normality was assessed next. Absolute values of skewness > 2.0 and kurtosis > 7.0 are considered to indicate excessive non-normality for maximum likelihood (ML) estimation (Kline, 2011; Tabachnick & Fidell, 2007). Skewness values ranged from = -1.992 and 1.223, M = 0.112, while kurtosis values ranged from = -1.33 and 4.123, M = -.72. Univariate statistics and factor loadings for all measured items are presented in Table 3. Though the data met assumptions for univarite normality, multivariate assumptions were not met. Analyses of the individual and parceled items found that one item from the appearance self-worth construct yielded a negative and statistically non-significant factor loading (λ = - .29, p = .467). The mean score for this item was 5.9 of a possible seven total points, and was 1.43 points higher than the aggregate mean for the scales other items ($M_{avg.}$ = 4.47). Consequently, this item was removed from further analyses.

Factor loadings for the remaining appearance self-worth items ranged between .59 and .80, others' approval = .43 and .82, social physique anxiety = .55 and .86, muscularity dissatisfaction = .61 and .86, and weight/body fat dissatisfaction = .76 and .90. Factor loadings for all items and item parcels were significant, with p's < .001. The scales used to estimate the latent constructs were examined through regression analysis to see if relations existed among these variables. Means, standard deviations, and correlations for the latent constructs are displayed in Table 4 for descriptive purposes only.

Table 3.

Univariate Statistics and Factor Loadings

Indicator (parcels and items)	M	SD	Skewness	Kurtosis	λ
MBAS - Muscularity Dissatisfaction[a, e]					
m1	3.53	1.45	0.117	-0.885	.61
Arms	3.84	1.24	-0.149	-0.738	.73
Chest	3.34	1.44	0.283	-0.887	.86
Shoulders/Back	2.59	1.47	0.846	0.060	.86
Legs	2.79	1.32	0.616	-0.605	.66
MBAS – Weight/Body Fat Dissatisfaction[a, e]					
Feel Fat	2.69	1.38	0.663	-0.427	.85
Lean Body	3.45	1.66	0.069	-1.221	.90
Abs	3.70	1.33	0.038	-0.733	.76
CSWS – Appearance Self-worth[c]					
app1[d]	5.90	1.37	-1.992	4.123	**-.03**
app2	4.81	1.71	-0.616	-0.660	.58
app3	4.51	1.71	-0.545	-0.683	.61
app4	4.23	1.83	-0.286	-1.096	.76
app5	4.32	1.78	-0.321	-1.035	.79
CSWS – Other's Approval Self-worth[c]					
ao1[d]	4.12	1.88	-0.173	-1.204	.81
ao2	3.07	1.88	0.575	-0.937	.45
ao3	4.08	1.82	-0.209	-1.108	.81
ao4	4.20	1.77	-0.297	-1.058	.80
ao5	3.48	1.71	0.148	-1.138	.68
SPAS -7; Social Physique Anxiety[d]					
spas_1	2.26	1.15	0.596	-0.508	.63
spas_2	2.40	1.22	0.549	-0.711	.82
spas_3	2.64	1.33	0.368	-1.054	.86
spas_4	2.38	1.24	0.591	-0.633	.87
spas_5	3.13	1.21	-0.058	-0.936	.56
spas_6	2.68	1.35	0.289	-1.114	.73
spas_7	2.83	1.40	0.156	-1.231	.70

Note: Mardia's Coefficient = 88.46, indicating multivariate kurtosis for overall sample. Range for item responses for latent constructs: [a,]1-6, [b]1-7, [c]1-5, [d]app1 was removed due to negative factor loading. [e]Item parcels were based on original scale development of the Men's Body Attitudes Scale (MBAS; Tylka, et al., 2005).

Table 4

Correlations, Means, and Standard Deviations.

Measure	1	2	3	4	5
1. CSWS – APP SW	-				
2. CSWS – AO SW	.59*	-			
3. SPAS-7	.49*	.52*	-		
4. MBAS – Muscularity	.35*	.34*	.51*	-	
5. MBAS – Weight/Body Fat	.32*	.28*	.62*	.33*	-
Mean	4.78	3.79	2.62	3.25	3.23
SD	1.14	1.40	0.99	1.12	1.33
Range	1-7	1-7	1-6	1-6	1-5

Note: CSWS = Contingent Self-Worth Scale (APP SW = Appearance Self-worth and AO SW = Approval from Others Self-worth subscales); SPAS-7 = Social Physique Anxiety Scale-7 item version; MBAS = Male Body Attitudes Scale (Muscularity Dissatisfaction and Weight/Body Fat Dissatisfaction subscales). * $p < .01$.

Research Question I: Testing the Hypothesized Model Fit.

Evaluation of the measurement model. The baseline measurement model demonstrated less then optimal fit (CFI = .93, SRMR = .05, RMSEA = .06), χ^2 (242, N = 765) = 979.33, p < .001. In order to attain a better fitting measurement model, post-hoc modifications were performed based on the data. All modifications were derived from the modification indices (MI), which identified high error variance for multiple items (Heene, Hilbert, Freudenthaler, & Bühner, 2012; Reynolds, Ingram, Seeley, & Newby, 2013). Inspection of the data suggested five modifications that were determined to be a result of similarities between item's content within their own respective subscale/latent construct, such as similar item content or wording (Byrnes, 2010; Tabachnick & Fidell, 2007). All modifications to the measurement model demonstrated statistically significant improvement to the overall model fit. This was tested using the chi-square difference test ($\Delta \chi^2$), where a statistically significant $\Delta \chi^2$ value indicates a better fitting model (see Table 5). Each modification to the model represented a statistically significant change ($p < .001$). The modified measurement model's fit indices suggested adequate fit (CFI

=.95, SRMR = .052, RMSEA = .049), χ^2 (237, N = 765) = 720.14, p < .001. Therefore, this measurement model was used to examine the hypothesized structural model. Please refer to Table 5 for a summary of the fit indices and significance tests associated with the model modifications and to Figure 5 for a visual depiction of the correlated error terms identified through the MI's.

Table 5

Measurement Models Fit Indices

	χ^2 (*df*)	*p*	$\Delta\chi^2$ (Δ *df*)	*p*	CFI	RMSEA	SRMR
1a: Baseline model	979.33 (242)	< .001	-	< .001	.927	.063	.049
1b: e7-e10	920.79 (241)	< .001	58.54 (1)	< .001	.933	.061	.050
1c: e11-e12	811.44 (240)	< .001	109.35 (1)	< .001	.944	.056	.052
1d: e6-e8	775.59 (239)	< .001	35.85 (1)	< .001	.947	.054	.050
1e: e3-e4	753.26 (238)	< .001	22.33 (1)	< .001	.949	.053	.050
1f: e24-e25	720.14 (237)	< .001	33.12 (1)	< .001	.952	.052	.049

Note: Model comparisons should flow alphabetically unless otherwise noted. Comparative fit index (CFI) > .95 for good fit, > .90 for acceptable fit, (b) root mean square error of approximation (RMSEA) ≤ .05 for good fit, < .08 for acceptable fit, and (c) standardized root mean square residual (SRMR) < .05 for good fit, < .10 for acceptable fit.

Examination of the structural model. The structural model in Fig. 6 provided an acceptable fit to the data (CFI = .95, SRMR = .049, RMSEA = .051), χ^2 (237, N = 765) = 627.73, p < .001. However, there were three statistically non-significant; therefore, in order to obtain a more parsimonious model, the following nonsignificant paths were deleted:

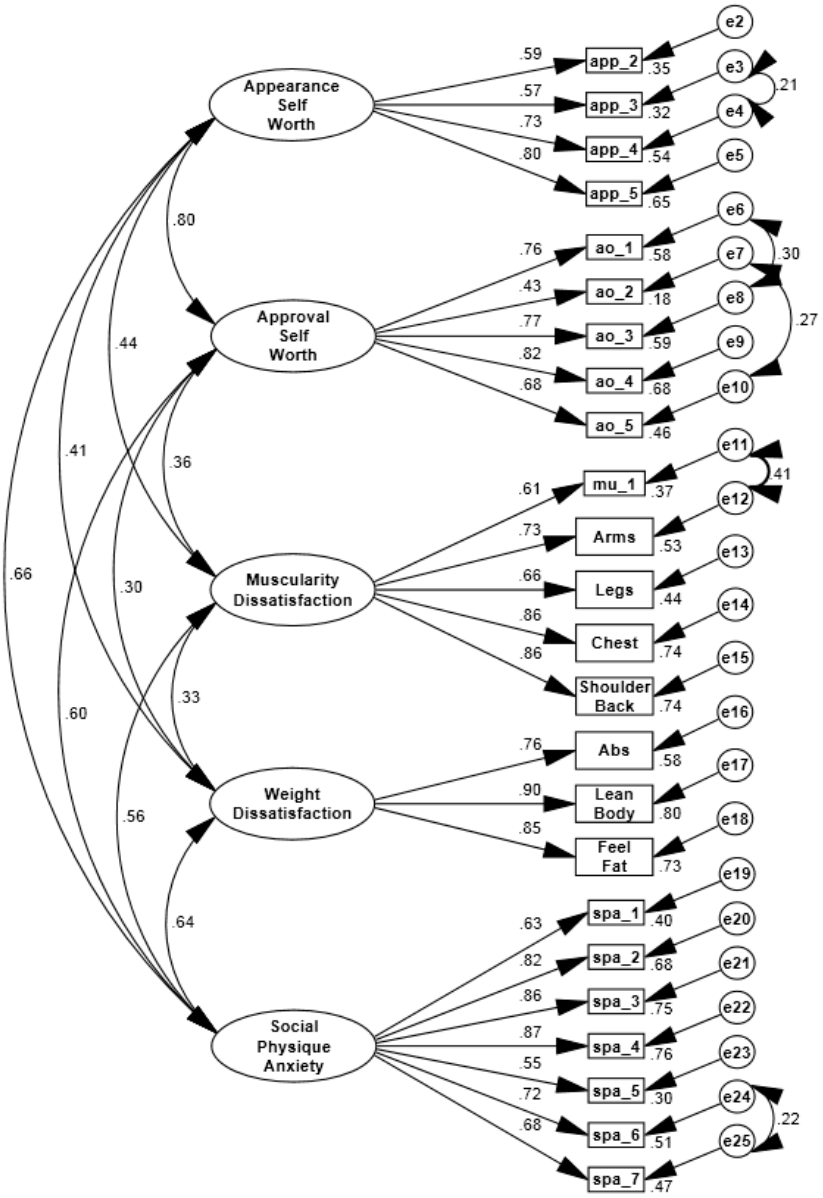
(a) Approval self-worth → muscularity dissatisfaction (R^2= -.08; p = .034),

(b) Appearance self-worth → weight/body fat (R^2= - .20; p = .164), and

(c) d1 → d2 (R^2 = -.04; p = .31).

Figure 5

Measurement Model



The structural model was reanalyzed and then trimmed model provide a better fit to the data than the baseline model (CFI=. 95, SRMR=. 049, RMSEA=. 051), χ^2 (240, N = 765), $p < .001$. Thus, the trimmed model was retained. Table 6 provides a summary of the model fit indices and modifications related to the removal of three non-significant paths.

Table 6.

Structural Model Fit Indices

	χ^2 (*df*)	*p*	CFI	RMSEA	SRMR
1g: Baseline model	720.14 (237)	< .001	.95	.052	.049
1h: removed path D: AO SW → MU	721.05 (238)	< .001	.95	.052	.049
1i: removed path C: App SW → W/BF	723.06 (239)	< .001	.95	.051	.049
1j: removed path J: d1 → d2	723.74 (240)	< .001	.95	.051	.049

Note: Model comparisons should flow alphabetically unless otherwise noted. Comparative fit index (CFI) > .95 for good fit, > .90 for acceptable fit, (b) root mean square error of approximation (RMSEA) ≤ .05 for good fit, < .08 for acceptable fit, and (c) standardized root mean square residual (SRMR) < .05 for good fit, < .10 for acceptable fit.

Hypothesis I. The hypothesis that contingencies of self-worth would influence social physique anxiety, which would subsequently influence muscularity and weight/body fat concerns in young men, was examined. The trimmed model (Figure 6) provided adequate fit to the data, thus indicating that contingent self-worth (CSW) influenced social physique anxiety (SPA), which influenced muscularity and weight/body fat concerns (BID).

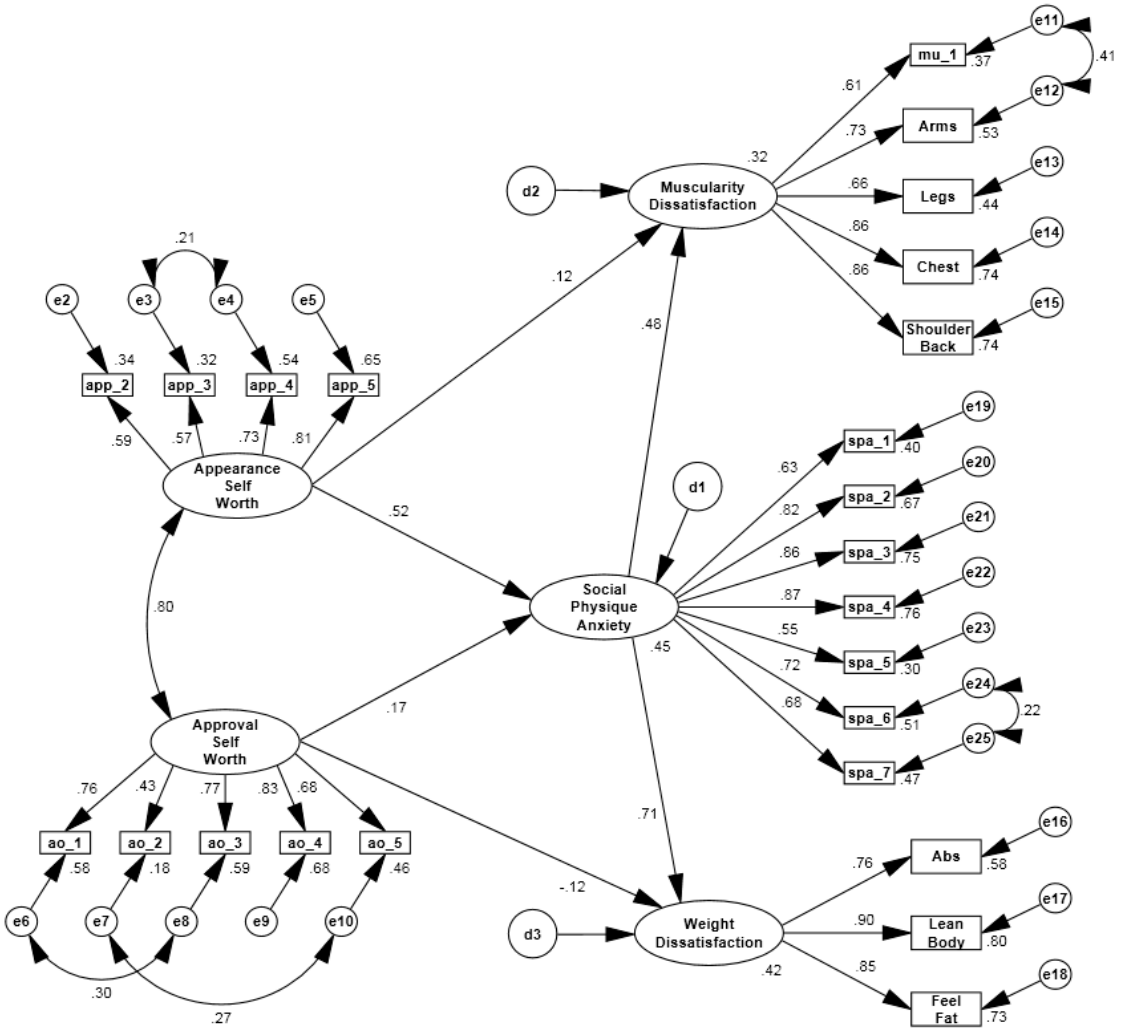
Hypothesis II. It was also hypothesized that approval and appearance self-worth would be positively related to (i.e., would predict) social physique anxiety, and positively predict muscularity and weight/body fat concerns. Due to violations of multivariate normality, biased-corrected bootstrapping was used to attain confidence intervals (95% CI) for bias-corrected parameter estimates (path coefficients). Bootstrapping is a robust resampling procedure used in SEM analyses when multivariate normality assumptions have been violated (Byrne, 2010; Nevitt & Hancock, 2001). To account for the violations and evaluate this hypothesis, the Amos software was specified to create 10,000 random samples, with replacement from the original data set to generate robust bias corrected parameter estimates (path coefficients), confidence intervals (CIs), and *p* –values.

Results indicated partial support for this hypothesis. Approval self-worth did not predict SPA ($\beta = .17$, $p = .06$, 95% CI [-0.009, -0.332]) and was a weak negative predictor of weight/body fat dissatisfaction ($\beta = .12$, $p = .04$, 95% CI [-0.008, -0.332]). Appearance self-worth was a strong predictor of SPA ($\beta = .53$, $p < .001$, 95% CI [0.37, 0.70]) and a weak predictor of muscularity dissatisfaction ($\beta = .12$, $p < .039$, 95% CI [0.01, 0.04]). Recall that paths between appearance self-worth → weight/body fat dissatisfaction, and approval self-worth → muscularity dissatisfaction were removed during model modification, thus, did not predict the hypothesized relationships. Subsequently, three of the eight predictions related to this hypothesis were supported by the data. This indicates that hypothesis II was partially supported, where (a) self-worth that is derived from gaining others' approval is a weak predictor of weight/body fat dissatisfaction, (b) self-worth that is contingent upon physical appearance moderately predicts men's concerns about others negatively judging their physical appearance, and (c) appearance self-worth is a weak predictor of muscularity dissatisfaction in men.

Question II and Hypothesis III. Analyses were performed to see if SPA mediated the relationship between approval and appearance contingencies of self-worth and men's muscularity and weight/body fat concerns. Due to violations of multivariate normality, indirect effects were estimated using bootstrap procedures proposed by Shrout and Bolger (2002). According to Shrout and Bolger, bootstrapped indirect effects are significant when the 95% CI do not include a zero value. Accordingly, the Amos software was specified to create 10,000 random samples, with replacement, from the original data set to generate indirect effects and bias corrected confidence intervals (CIs) around the original indirect effects from the non-normal data set. Full or partial mediation was assessed based on statistical significance of the direct paths such that significant direct effects (interpreted as path coefficients) would indicate partial

Figure 6.

Trimmed Structural Model



mediation, whereas non-significant paths would indicate full mediation. This hypothesis was not supported, suggesting that SPA did not have a mediate relationship between appearance self-worth and muscularity dissatisfaction (β = 0.00, n. s.). Additionally, SPA did not mediate the effect between approval self-worth and weight/body fat dissatisfaction (β = 0.00, n. s.). Therefore, the effect of CSW and SPA uniquely predicted men's muscularity and weight/body fat dissatisfaction. Table 8 summarizes the results of the mediation analysis.

Table 7.

Mediation Analysis

Indirect Path	Indirect Effect	95% CI	Direct path significant	Full/partial mediation
AP→SPA→MU	0.00	-	n/a	n/a
AO→SPA→W/BF	0.00	-	n/a	n/a

Note: AP = Appearance Self-Worth; SPA = Social Physique Anxiety; MU = Muscularity Dissatisfaction; AO = Approval Self-Worth; W/BF = Weight/Body Fat Dissatisfaction.

Chapter V

Discussion

This chapter includes a summary and interpretation of the results with regard to each of the research questions. The discussion includes a summary of the findings and implications. Finally, limitations of the current study are summarized and directions for future research are offered.

Summary and Interpretation of the Findings

Prior research suggests that men's body image conveys thoughts and feelings in relation to biased evaluative processes, or appearance schema (Cash et al., 2004). Trends suggest that many young adult men have grown increasingly concerned about their physical appearance, particularly dissatisfaction with the size and shape of their physiques. The current study hypothesized Conditional Self-Worth (CSW) and Social Physique Anxiety (SPA) as cognitive/intrapersonal predictors of men's Body Image Dissatisfaction (BID). Said differently, when self-worth is conditional upon physical appearance and other's approval, men will be more concerned about negative judgments from others with regard to their bodies, and subsequently, more inclined to negative evaluate their own muscularity and weight/body fat. The current study (a) examined the goodness of fit of a structural model of the empirical relations of CSW, SPA, and BID <u>and</u> (b) tested SPA as a mediator of the relations between CSW and SPA.

Using a sample of 765 adult males between the ages of 18 and 29 years (M = 23.86; SD = 3.52), the model was tested through structural equation modeling. Testing of the model involved multiple steps, including (a) evaluation of the measurement model, (b) evaluation of the structural model, (c) examination of the hypothesized relationships among the latent constructs (CSW, SPA, BID).

First, a confirmatory factor analysis assessed the goodness of fit between the measured variables (i.e., survey items) in relationship to the latent constructs. This step identified sources of error, which upon inspection, it was determined that the sources of error were likely due to shared item content within some of the latent constructs (Byrnes, 2010; Heene, et al., 2012). For example, two items that represented social approval, "*I can't respect myself if others don't respect me"* and "*My self-esteem depends on the opinions others hold of me,"* shared similar content related to the influence of other people's opinions in relation to one's own evaluation of self-worth. Additionally, only two items separated these questions, thus, participants may have responded to the second item based on their response to the previous item (Podsakoff, MacKenzie, & Podsakoff, 2012).

This finding is important for cross validating these results and testing the model with other samples of men. Specifically, changing the order of the items may eliminate some of the response biases that potentially contributed to error variance in the current study. Also, this finding highlights that future research and scale development may be required to provide a more accurate assessment of self-worth derived from muscularity and weight/body fat dissatisfaction rather than general physical appearance.

Though the structural model represented an adequately fitting model, multiple modifications were required to achieve the degree of model fit. Modifications involved the removal of two regression paths and one covariance that were statistically non-significant and included (a) others' approval and muscularity dissatisfaction, (b) appearance self-worth and weight/body fat, and (c) a statistically non-significant covariance between the error terms for muscularity and weight/body fat dissatisfaction. The hypothesized covariance between the two BID constructs (i.e., muscularity and weight/body fat) relied on the assumption that the two

constructs would share error variance due to the nature of men's BID. Results could indicate that the participants perceived the two constructs to represent distinct aspects of BID; however, cross validation is required to further examine this finding. The importance of this finding is that future research may benefit from using the same scales to represent men's BID. Results also revealed that self-worth derived from other's approval did correlate with muscularity dissatisfaction and appearance self-worth was not correlated with weight/body fat dissatisfaction. This may indicate that men who experienced higher degrees of weight dissatisfaction may not invest as much of their self-worth in their physical appearance (Clabaugh, Karpinski, & Griffin, 2008).

Results indicate that men's muscularity dissatisfaction is predicted by the amount of self-worth derived from physical appearance and the degree to which men are concerned with their physiques being negatively judged by others. Thus, in line with previous research and the social cognitive model, men who invest more of their self-worth in physical appearance, are more likely to experience greater distress and negative self-evaluation when appearance schemata become activated (Beck & Haigh, 2014; Cash, 2011). Additionally, men who experience weight/fat dissatisfaction are less likely to derive their self-worth from social approval. This may be a result of previous experiences of social rejection (Park, 2007); however, future research is needed for better understand the relationship between these variables in men.

Interestingly, no support was found for this hypothesis, as SPA did not mediate any of the proposed relationships. This finding indicates that men's muscularity dissatisfaction is uniquely related by contingent self-worth that is derived from physical appearance and their concerns about their physique being negatively evaluated by other people. Additionally, men's weight/body fat dissatisfaction is uniquely related to approval self-worth and SPA. According to

the data from the current study, SPA was a moderate to strong predictor of the BID constructs, which may indicate that the response to the social threat has a more immediate impact on men's BID than does on their evaluation of self-worth. It is possible that the decrease in self-worth occurs after the threat abates and more reflective and higher order cognitive processing occurs (Beck & Haigh, 2014).

Implications and Future Directions

The goal of this study was to advance the empirical understanding of underlying social/cognitive (intrapersonal) processes related to the experience of BID in men. The study focused specifically on men's investment in physical appearance norms as part of their identity, their concerns about their bodies being socially evaluated by others, and the degree to which these influenced their negative attitudes about their muscularity and weight/body dissatisfaction.

Current models used to examine empirical relations among BID in men have been criticized for relying too heavily on the sources of influence rather then the underlying cognitive processes relevant to the experience of BID (Tiggemann, 2011). The most common approach to testing empirical relations among cognitive and behavioral correlates of men's BID has been the social influence model (Cash, 2011; Tylka 2011). Recently, it has been recommend that researchers and clinicians conceptualize men's BID more from a social cognitive perspective because body image involves interrelated thoughts and feelings linked to physical appearance (McCreary & Saucier; Tod, et al., 2013). Based the current studies results, this model may serve as a useful way to evaluate and treat men's BID in clinical settings, as well as examine empirical relations between social/cognitive factors related to men's BID.

This study applied Cash's (2002, 2011) social cognitive model as a way to examine affective processes (e.g., SPA) related to men's attitudes about their body image. To date, no

study concurrently examined men's BID using CSW and SPA using this approach. Previous research has shown that men BID is associated with internalizing social appearance norms (i.e., the ideal male body) and the degree of discrepancy between their own physiques compared to social norms (Brunet et al., 2010; Crocker, Luhtanen, Cooper, & Bouvrette, 2003; Crocker & Wolfe, 2001; McCreary & Saucier, 2009; Tylka, 2011). The current study offers initial empirical support for the application of CSW and SPA to represent cognitive domains related to men's BID (e.g., investment and affective) that may assist in identifying men's internalization of social body norms and self-evaluative discrepancies.

Two key psychological issues associated with BID include anxiety and lowered self-esteem (Martin, Kliber, Kulinna, & Fahlman, 2006). The current model could be applied to clinical work as a way to evaluate men's investment in achieving a muscular physique, and their experience with social anxiety related to appearance concerns, as this may be relevant to the etiology of men's presenting issues when entering counseling. As previously mentioned, clinical knowledge of men's BID is limited primarily to a small subset of severe clinical disorders (e.g., Body Dysmorphic Disorder, Obsessive Compulsive Disorder, and eating disorders); however, men may also experience significant distress related to BID yet may not meet clinical thresholds of these disorders (Berlew & Shurts, 2012). Therefore, best practices and treatments currently used to treat more severe forms of body image pathology may not apply to subclinical BID. By applying the current model to future clinical work and research, scientist practitioners may be able to apply foundational concepts related to cognitive behavioral treatments for specific symptoms of mental health issues (i.e., depression, anxiety, social phobia) and tailor them to men's BID. This would provide opportunities to better understand the nature of men's BID, test future models, and potentially advance the treatment of BID in a clinical setting.

Limitations and future research. The current results offer support for the use of CSW and SPA to explain underlying cognitive processes that are known to contribute to men's BID; however there are several limitations to the immediate application of the model examined in the current study. Because the current study used correlational data and a cross-sectional design, a significant limitation is the current study's inability to test causal effects. This makes it impossible to examine the true predictive nature of CSW on SPA and muscularity dissatisfaction. The use of longitudinal studies would provide more a stronger empirical evaluation of the nature of these relationships.

Additionally, the homogenous nature of the current sample likely limits the current study's findings to heterosexual Caucasian men between the ages of 18 and 29 years. Future research is necessary to examine the current model with men of different ages, race, and sexual orientation. Furthermore, this study sampled men in community and college settings; however, a majority of men in the sample reported attending or completing post-secondary education that may still limit the generalizability to samples of college males.

Future studies might apply this model to future experimental and longitudinal research to develop effective assessment and treatment protocols. As previously noted, treatments for men who experience subclinical levels of more severe forms of BID pathology have not been developed. Researchers may apply this model to facilitate the advancement of empirical knowledge by conducting randomized control trials and developing more rigorous treatment protocols and empirically based practices.

Previous research has suggested that heterosexual and gay men experience BID differently. Such that gay men are more likely to desire a leaner physique that is still tone; however, the emphasis on muscularity is not as great as it is for heterosexual men (Duggan and

McCreary, 2004). Future research could test the same model with a sample of gay, as well as test the invariance between heterosexual and gay men to see if the model is generalizable to a more diverse range of males.

Finally, although the current study examined approval self-worth as part of the hypothesized model, results indicated that approval from others might not fully explain men's BID. Because appearance is a salient part of men's self-worth and relies on interpersonal relations, future research is necessary to better explain the role of self-worth in relationship to social/interpersonal environments and muscularity and weight/body fat dissatisfaction.

Conclusion. The current study provides an alternative approach to conceptualizing men's BID. It is hoped that the current examination and application of the relations identified in this study will facilitate increased awareness of thought processes that underlie BID (e.g., CSW and SPA). Additionally, it is believed that the current model can provide counseling psychologists and researchers with a foundation from which they may conceptualize the application of cognitive behavioral techniques in a way that advances treatment and empirical knowledge of this growing issues in men. However, before these goals can be accomplished, further research is needed.

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Appendix A

Informed Consent

Appendix A

Informed Consent

KU RESEARCH & GRADUATE STUDIES
The University of Kansas

4/24/2013
HSCL #20833

Zac Schmidt
1411 W. 7th Street
Lawrence, KS 66044

The Human Subjects Committee Lawrence Campus (HSCL) has received your response to its expedited review of your research project

20833 Schmidt/Lichtenberg (PRE) Contingent self-worth and body dissatisfaction as predictors of social physique anxiety in college men

and approved this project under the expedited procedure provided in 45 CFR 46.110 (f) (7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

The Office for Human Research Protections requires that your consent form must include the note of HSCL approval and expiration date, which has been entered on the consent form(s) sent back to you with this approval.

1. At designated intervals until the project is completed, a Project Status Report must be returned to the HSCL office.
2. Any significant change in the experimental procedure as described should be reviewed by this Committee prior to altering the project.
3. Notify HSCL about any new investigators not named in original application. Note that new investigators must take the online tutorial at https://rgs.drupal.ku.edu/human_subjects_compliance_training.
4. Any injury to a subject because of the research procedure must be reported to the Committee immediately.
5. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed consent form, provide a copy of the consent form to subjects at the time of consent.
6. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.

Please inform HSCL when this project is terminated. You must also provide HSCL with an annual status report to maintain HSCL approval. Unless renewed, approval lapses one year after approval date. If your project receives funding which requests an annual update approval, you must request this from HSCL one month prior to the annual update. Thanks for your cooperation. If you have any questions, please contact me.

Sincerely,

Christopher Griffith, J.D.
Assistant Coordinator
Human Subjects Committee- Lawrence

cc: James Lichtenberg

Human Subjects Committee Lawrence
Youngberg Hall | 2385 Irving Hill Road | Lawrence, KS 66045 | (785) 864-7429 | HSCL@ku.edu | research.ku.edu

Appendix B

Contingent Self-Worth Scale (CSWS)

Appendix B

Contingent Self-Worth Scale (CSWS)

Contingent Self-Worth Scale (Crocker et al. (2001)

To not violate copyright laws, the full set of questions used in this study is not included in the manuscript submitted to ProQuest/UMI ETD. The Contingent Self-Worth Scale can be found online at: http://faculty.psy.ohio-state.edu/crocker/lab/csw.php.

Instructions and example questions from the subscales used in the current study are listed below.

Instructions
Please respond to each of the following statements by choosing (circle/click) your answer using the scale from "1 = Strongly disagree" to "7 = Strongly agree." If you have not experienced the situation described in a particular statement, please answer how you think you would feel if that situation occurred.

1. My self-esteem is unrelated to how I feel about the way my body looks.

2. My self-esteem does not depend on whether or not I feel attractive.

Appendix C

Male Body Attitudes Scale (MBAS)

Appendix C

Male Body Attitudes Scale (MBAS)

Male Body Attitudes Scale (Tylka, et al. (2005).

To not violate copyright laws, the full set of questions used in this study is not included in the manuscript submitted to ProQuest/UMI ETD. The Male Body Attitudes Scale (MBAS) can be found by contacting scale developer at tylka.2@osu.edu.

Instructions and example questions from the subscales used in the current study are listed below.

Instructions
Please indicate (circle/click) whether each question is true about you always, usually, often, sometimes, or never.

1. I think I have too little muscle on my body.

2. I think that my body should be leaner.

3. I think that I have too much fat on my body.

Appendix D

Social Physique Anxiety Scale – 7 (SPAS-7)

Appendix D

Social Physique Anxiety Scale – 7 (SPAS-7)

Social Physique Anxiety Scale
(Hart et al., 1989; Motl & Conroy, 2001; Scott, Burke, Joyner, & Brand, 2004)

To not violate copyright laws, the full set of questions used in this study is not included in the manuscript submitted to ProQuest/UMI ETD. The original scale should be accessed via Mark R. Leary's webpage: http://people.duke.edu/~leary/scales.html#social_phys_anx. While the 7-item version should be accessed via Molt & Conroy, 2001 or by contacting Robert Motl at: robmotl@illinois.edu.

Instructions and example questions from the subscales used in the current study are listed below.

Instructions
Read each item carefully and indicate how characteristic it is of you according to the following scale.

1. There are times when I am bothered by thoughts that other people are evaluating my weight or muscular development negatively.

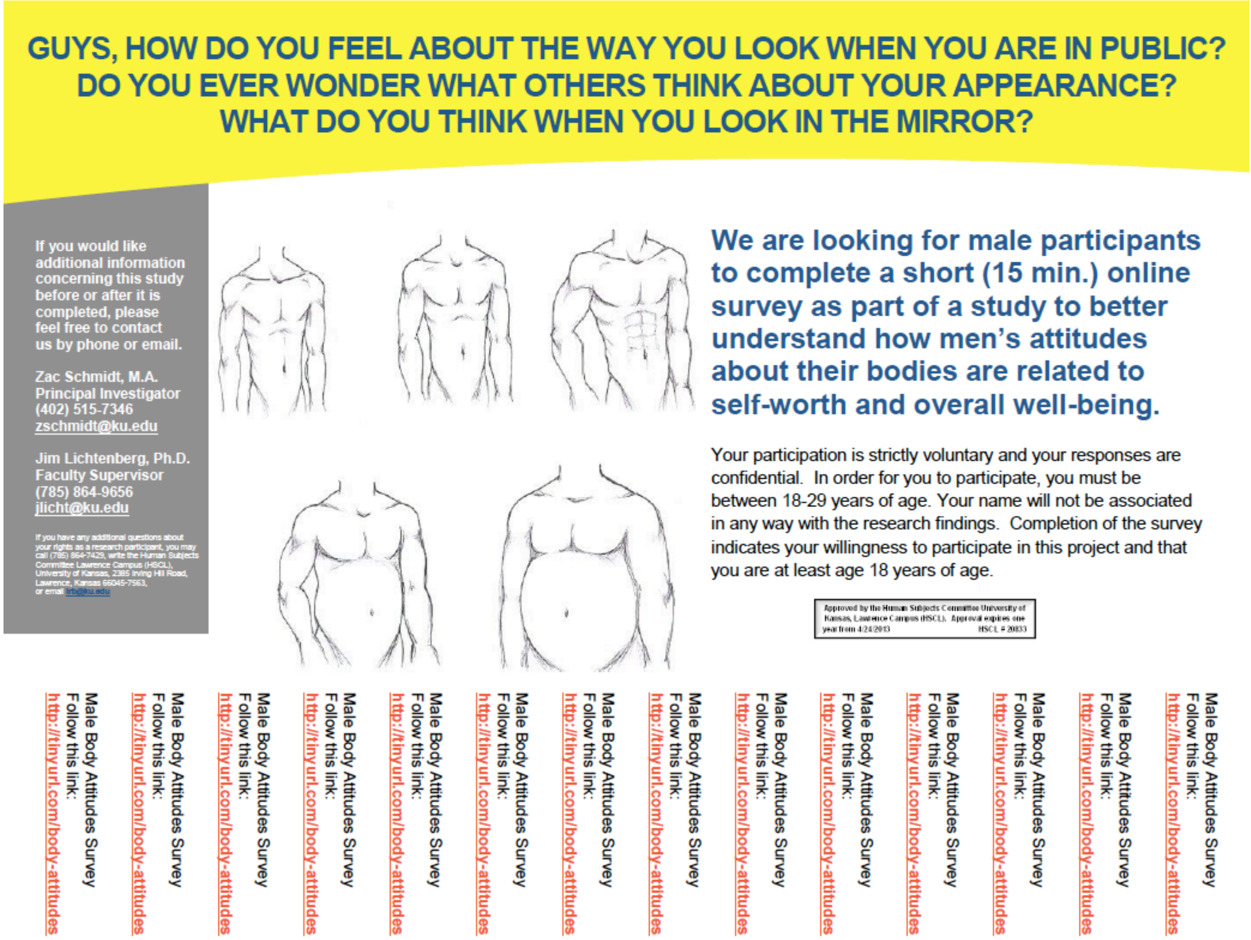
2. Unattractive features of my physique make me nervous in certain social settings.

Appendix E

University and Community Flyers

Appendix E

University and Community Flyers



GUYS, HOW DO YOU FEEL ABOUT THE WAY YOU LOOK WHEN YOU ARE IN PUBLIC?
DO YOU EVER WONDER WHAT OTHERS THINK ABOUT YOUR APPEARANCE?
WHAT DO YOU THINK WHEN YOU LOOK IN THE MIRROR?

If you would like additional information concerning this study before or after it is completed, please feel free to contact us by phone or email.

Zac Schmidt, M.A.
Principal Investigator
(402) 515-7346
zschmidt@ku.edu

Jim Lichtenberg, Ph.D.
Faculty Supervisor
(785) 864-9656
jlicht@ku.edu

If you have any additional questions about your rights as a research participant, you may call (785) 864-7429, write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, or email irb@ku.edu

We are looking for male participants to complete a short (15 min.) online survey as part of a study to better understand how men's attitudes about their bodies are related to self-worth and overall well-being.

Your participation is strictly voluntary and your responses are confidential. In order for you to participate, you must be between 18-29 years of age. Your name will not be associated in any way with the research findings. Completion of the survey indicates your willingness to participate in this project and that you are at least age 18 years of age.

Approved by the Human Subjects Committee University of Kansas, Lawrence Campus (HSCL). Approval expires one year from 4/24/2013 HSCL # 20833

Male Body Attitudes Survey
Follow this link:
http://tinyurl.com/body-attitudes

Male Body Attitudes Survey
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Appendix F

Faculty Email Solicitation

Appendix F

Faculty Email Solicitation

Approved by the Human Subjects Committee University of Kansas, Lawrence Campus (HSCL). Approval expires one year from 4/24/2013 HSCL # 20833

Dear Faculty Member,

I am a graduate student at the University of Kansas, studying Counseling Psychology, and am looking for male participants for my doctoral dissertation project. The purpose of study to is to better understand how one's attitudes about his body are related to self-worth and overall wellbeing. The study entails completion of a questionnaire that is expected to take approximately 15 minutes to complete.

My faculty research advisor and I would like to request your assistance in the recruitment of potential participants for this research study. Specifically, we are asking if you would be willing to distribute the information statement, listed below, to male students (18-29 years of age) enrolled in your program. Their participation is voluntary and not identifying information will be collected. If students are interested in participating in the study, they can follow the link provided in this message and go to the informed consent form that outlines the study in more detail.

If you have any questions/concerns, please do not hesitate to contact me or my faculty advisor. Our contact information is listed at the end of the information statement provided below.

Thank you in advance for your assistance. It is greatly appreciated.
Zac Schmidt M.A.

Appendix G

Student Email Solicitation

Appendix G

Student Email Solicitation

Approved by the Human Subjects Committee University of Kansas, Lawrence Campus (HSCL). Approval expires one year from 4/24/2013 HSCL # 20833

Dear Student,

I am a graduate student at the University of Kansas, studying Counseling Psychology. I am looking for male participants for a dissertation study on understanding how men's attitudes about their bodies are related to self-worth and overall well-being. This will entail your completion of a questionnaire.

You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty. In order to participate, you must be between 18 and 29 years of age. By consenting to participate you are indicating that you are 18 years of age or older.

If you would like to participate or learn more about the study please click this link: **https://tinyurl.com/body-attitudes** to go to the informed consent form that outlines the study in more detail. The study will take approximately 15 minutes to complete, should you decide to proceed.

Please feel free to contact me, or my faculty research advisor, Dr. Jim Lichtenberg should you have any questions or concerns.

Thank you in advance for your time and participation.

Zac Schmidt, M.A.	Jim Lichtenberg, Ph.D.
Principal Investigator	Faculty Supervisor
University of Kansas	University of Kansas
Lawrence, KS 66045	Lawrence, KS 66045
(402) 515-7346	(785) 864-9656
zschmidt@ku.edu	jlicht@ku.edu

Appendix H

Online Recruitment

Appendix H

Online Recruitment

GUYS, HOW DO YOU FEEL ABOUT THE WAY YOU LOOK WHEN YOU ARE IN PUBLIC? DO YOU EVER WONDER WHAT OTHERS THINK ABOUT YOUR APPEARANCE? WHAT DO YOU THINK WHEN YOU LOOK IN THE MIRROR?

If you would like additional information concerning this study before or after it is completed, please feel free to contact us by phone or email.

Zac Schmidt, M.A.
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Jim Lichtenberg, Ph.D.
Faculty Supervisor
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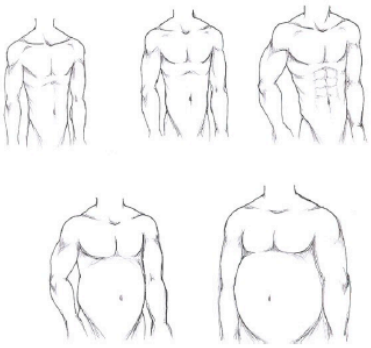

We are looking for male participants to complete a short (15 min.) online survey as part of a study to better understand how men's attitudes about their bodies are related to self-worth and overall well-being.

Your participation is strictly voluntary and your responses are confidential. In order for you to participate, you must be between 18-29 years of age. Your name will not be associated in any way with the research findings. Completion of the survey indicates your willingness to participate in this project and that you are at least age 18 years of age.

Approved by the Human Subjects Committee University of Kansas, Lawrence Campus (HSCL). Approval expires one year from 4/24/2013 HSCL # 20833

To complete the survey, follow this link:
http://tinyurl.com/body-attitudes

Appendix I

Items and Constructs

Appendix I

Items and Constructs

Item and Construct
Construct and Parcel
Muscularity Dissatisfaction
Overall Muscle Parcel
Arms Parcel
Legs Parcel
Chest Parcel
Shoulder/Back Parcel
Weight/Body Fat Dissatisfaction
Feel Too Fat Parcel
Lean Body Parcel
Abdominal Parcel
Social Physique Anxiety
No parcel created
Appearance Self-Worth
No parcel created
Approval Self-Worth
No parcel created

Note: To not violate copyright laws, the full set of questions used in this study is not included in the manuscript submitted to ProQuest/UMI ETD. The Contingent Self-Worth Scale can be found online at: http://faculty.psy.ohio-state.edu/crocker/lab/csw.php. The Male Body Attitudes Scale (MBAS) can be found by contacting scale developer at tylka.2@osu.edu. The original scale should be accessed via Mark R. Leary's webpage: http://people.duke.edu/~leary/scales.html#social_phys_anx. While the 7-item version should be accessed via Molt & Conroy, 2001 or by contacting Robert Motl at: robmotl@illinois.edu.

Appendix J

Qualtrics Survey

Default Question Block

Approved by the Human Subjects Committee University of Kansas, Lawrence Campus (HSCL). Approval expires one year from 2/6/2012. HSCL #19876

Internet Information Statement

The Department of Psychology and Research in Education at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty. In order to participate you must be at least 18 years of age or older. By consenting to participate you are indicating that you are 18 years of age or older.

We are conducting this study to better understand how one's perception of his body image impacts overall self-esteem and body image satisfaction. This will entail your completion of a questionnaire. The questionnaire packet is expected to take approximately 15 minutes to complete.

The content of the questionnaires should cause no more discomfort than you would experience in your everyday life. Although participation may not benefit you directly, we believe that the information obtained from this study will help us gain a better understanding of how one's perception of his body image impacts levels of self-esteem and overall body image satisfaction. Your participation is solicited, although strictly voluntary. Your name will not be associated in any way with the research findings. It is possible, however, with internet communications, that through intent or accident someone other than the intended recipient may see your response.

If you would like additional information concerning this study before or after it is completed, please feel free to contact us by phone or mail.

Completion of the survey indicates your willingness to participate in this project and that you are at least age eighteen. If you have any additional questions about your rights as a research participant, you may call (785) 864-7429, write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, or email irb@ku.edu.

Sincerely,

Zac Schmidt, M.A.
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Research in Education
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(785) 864-9656
jlicht@ku.edu

Note: As previously mentioned, to not violate copyright laws, the full set of questions used in this study is not included in the manuscript submitted to ProQuest/UMI ETD. Because the Qualtrics survey included a full list of all items, the survey is also not included in the manuscript submitted to ProQuest/UMI ETD; therefore, the remainder of the survey should be accessed through contacting dissertation author Zac Schmidt, (zschmidt.ku@gmail.com) or dissertation chairperson Jim Lichtenberg (jlicht@ku.edu).