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## Social body comparison and internalization: Mediators of social influences on men's muscularity-oriented body dissatisfaction\*

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#### ABSTRACT

Research suggests that body dissatisfaction (BD) is prevalent among males and associated with unhealthy outcomes. Consistent with the well-validated Tripartite Influence Model, internalization of an ideal body figure and social body comparison have received support as predictors of men's dissatisfaction with their muscularity. However, empirical investigations with males that include both constructs are lacking. The current study examined the associations of both constructs with muscularity-oriented BD in a sample of college men (n = 204). Results from hierarchical regression analyses revealed that internalization and social body comparisons had unique relations with men's muscularity-oriented BD. A structural equation model indicated that both constructs mediated the relationship between social influences and muscularity BD. Preliminary data on targets of male body comparisons also were presented. These findings provide evidence for extension of the Tripartite Influence Model to males, particularly when constructs are assessed in ways that are reliable and valid for this population.

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#### Introduction

Body dissatisfaction (BD) is prevalent among males and associated with unhealthy physical and psychological outcomes (e.g., Cafri et al., 2005; Thompson & Cafri, 2007). In the United States, as many as 90% of undergraduate males express a desire to be more muscular (Frederick et al., 2007). Evidence of increasing BD among males is evident in other cultures as well (e.g., Chen, Gao, & Jackson, 2007; Frederick et al., 2007). Although no prevalence estimates of clinically significant levels of BD are available for men, research suggests that male BD is associated with a variety of risky body change strategies, including steroid use, appearance and performance-enhancing supplement use, and maladaptive dieting behaviors (Cafri et al., 2005). Estimates of steroid use among adolescent males range from 3% to 12% (e.g., Middleman & DuRant, 1996; Stilger & Yesalis, 1999), and the rate is rising fairly rapidly (e.g., Yesalis & Bahrke, 2002). Additional risky body change behaviors used to obtain a lean, muscular figure include dietary restriction, food supplement use, and overtraining (e.g., to the point of injury). While frequency estimates of these behaviors are not known, it is likely that they exceed those of steroid use because they are more readily available (Smolak, Murnen, & Thompson, 2005). BD among males is also associated with unhealthy psychological outcomes, including increased depression and negative affect (Presnell, Bearman, & Stice, 2004; Ricciardelli, McCabe, Lillis, & Thomas, 2006). Given the associations among male BD and unhealthy physical and psychological side effects, the importance of understanding factors associated with men's BD is gaining increased attention (e.g., Thompson & Cafri, 2007).

The Tripartite Influence Model provides a conceptual framework for understanding relationships among various risk factors and mechanisms of influence on BD (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Though initially developed to explain BD and maladaptive eating patterns among females, the model has been extended to explain factors related to BD among adolescent and young adult males (Chen et al., 2007; van den Berg et al., 2007). Consistent with this well-validated model, two psychological processes have received support as risk factors of male BD: internalization of a societal ideal figure and engagement in social body comparisons (e.g., Hobza, Walker, Yakushko, & Peugh, 2007; Smolak, Levine, & Thompson, 2001). However, empirical investigations with males that include both constructs are lacking, making it difficult to determine how the constructs operate in the context of each other (Jones, 2004). Couched in the well-validated Tripartite Influence Model, the purpose of the present study was to

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examine social comparison and internalization as mediators of the relationship between social influences and male BD.

The mediating roles of internalization and social comparison

In their Tripartite Model, Thompson et al. (1999) hypothesized that the relationship between social influences and BD is mediated by two individual variables: internalization and social body comparisons. BD among men is a multidimensional construct, comprised of a desire for increased muscularity (muscularity BD; Bergeron & Tylka, 2007; McCreary, 2007), the focus of this research, and dissatisfaction with body fat and height (Bergeron & Tylka, 2007; Tylka, Bergeron, & Schwartz, 2005). In the context of literature on body image research, social influences include appearance-related information, conversations, pressures, teasing, and encouragement from one or more of several sources, including parents, peers, and the media (Jones, Vigfusdottir, & Lee, 2004; Thompson et al., 1999). The way in which social influences are operationalized varies substantially across studies (Shroff & Thompson, 2006).

Internalization is the process of adopting the ideal social body figure as a personal goal and standard (Jones, 2004). For men, this ideal figure has grown increasingly muscular over time (e.g., Leit, Pope, & Gray, 2001; Pope, Olivardia, Gruber, & Borowiecki, 1999). To our knowledge, six studies examined internalization as a mediator of the relationship between social influences and BD among males in adolescence (Bearman, Presnell, Martinez, & Stice, 2006; Halliwell & Harvey, 2006; Jones, 2004; Jones et al., 2004) or young adulthood (Chen et al., 2007; Karazsia & Crowther, 2008a). Three of these studies found support for internalization as a mediator (Halliwell & Harvey, 2006; Jones et al., 2004; Karazsia & Crowther, 2008a), while three did not (Bearman et al., 2006; Chen et al., 2007; Jones, 2004). Two methodological issues may provide explanation for these discrepant findings.

One issue concerns the assessment of constructs in ways that are meaningful for men. Despite overwhelming evidence that a key component of male BD is muscularity (e.g., McCreary & Sasse, 2000), some research on male BD relied on instruments that may be more relevant for females (e.g., Peterson, Paulson, & Williams, 2007). A second potential methodological issue concerns the manner in which internalization is assessed (Keery, van den Berg, & Thompson, 2004). In a psychometric comparison of two common measures of internalization, the Sociocultural Attitudes Towards Appearance Questionnaire (SATAQ-3; Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004) and the Ideal Body Internalization Scale-Revised (IBIS-R; Stice, Ziemba, Margolis, & Flick, 1996), Thompson and colleagues (2004, p. 302) concluded "that there was virtually no overlap" between the two internalization measures in a sample of undergraduate females. They contended that the IBIS-R may assess an awareness of sociocultural norms, as opposed to internalization of these norms. In light of these potential measurement issues, research has found that internalization is consistently associated with male BD when the construct of BD is operationalized as muscularity BD (e.g., McCreary, 2007) and internalization is assessed with a measure that yields reliable and valid scores with males (Karazsia & Crowther, 2008b; Smolak et al.,

The importance of social body comparisons stems from Festinger's (1954) Social Comparison Theory. The central tenet

of this theory is that individuals compare themselves to others in order to process social information. Consistent with the notion that male BD is characterized by a drive for muscularity, body comparisons by males are focused on muscle-related dimensions (Gokee-LaRose, Dunn, & Tantleff-Dunn, 2004). Smolak and Stein (2006) examined social comparison as a potential moderator of the relationship between social influences and drive for muscularity among middle school boys. In their study, social comparison was related significantly with drive for muscularity, though there was no evidence for moderation. Empirical support for a mediating role is more robust, with several studies demonstrating an indirect effect of social influences on male BD, through social body comparisons (e.g., Chen et al., 2007; Smolak et al., 2005). Although research on social body comparisons among males is gaining interest, very little is known about the specific targets of these comparisons (Krayer, Ingledew, & Iphofen, 2008).

Although it could be argued that internalization may influence the frequency of social comparisons, the Tripartite Influence Model (Thompson et al., 1999) hypothesizes that social comparisons influence internalization of societal ideals. That is, individuals with greater tendencies toward social body comparisons are more likely to engage in the process of internalization. This directionality is also consonant with Festinger's Social Comparison Theory (Festinger, 1954), which argues that individuals have an innate drive to evaluate dimensions of the self (e.g., body image). When objective means of comparison are not available, individuals make evaluative comparisons against other people (Festinger, 1954). Consistent with these theoretical perspectives, empirical research supports a positive relationship between social body comparisons and internalization across samples with diverse characteristics, including adolescent females (Keery et al., 2004; Morrison, Kalin, & Morrison, 2004; Schutz, Paxton, & Wertheim, 2002), adolescent males (Jones, 2004), and young adult males (Karazsia & Crowther, 2008b). Additionally, numerous examinations with female samples support the role of social comparisons as a mediator between social influences and internalization of a thin ideal (e.g., Halliwell & Harvey, 2006; Keery et al., 2004; Shroff & Thompson, 2006).

While research on the relations among social body comparisons, internalization, and muscularity BD is growing (e.g., McCreary, 2007; Smolak et al., 2005), empirical investigations of social influences on muscularity BD rarely incorporate both internalization and social comparisons as potential mediators (Jones, 2004; Keery et al., 2004). As a result, it is difficult to determine how the constructs operate in the context of each other (Jones, 2004). There may be two reasons for the lack of simultaneous inclusion of both constructs in empirical research. First, with the exception of the Tripartite Influence Model, conceptual models outlining potential pathways among influences of muscularity BD and related outcomes have typically included either social comparison or internalization, not both. For example, Cafri and colleagues (2005) highlighted the potential mediating role of social body comparisons on the relationship between social influences and muscularity BD, while Grieve (2007) emphasized the importance of ideal body internalization. As a result, empirical investigations that are guided by these models do not incorporate both constructs.

A second reason concerns the interrelationships among the constructs (Jones, 2004; Keery et al., 2004). Indeed, van den Berg and colleagues (2007) used two items from the SATAQ-3 to assess body comparisons with a sample of male and female adolescents and young adults. To investigate the uniqueness of social comparisons from internalization among adolescent females, Keery and colleagues (2004) conducted a factor analysis of items that comprise internalization and social comparison scales. Items from each construct loaded on different factors, leading the authors to conclude that the constructs are "distinct" (p. 244). However, even

 $<sup>^{1}</sup>$  For a detailed definition of mediation and how it differs conceptually and methodologically from moderation, see Baron and Kenny (1986).

<sup>&</sup>lt;sup>2</sup> It should be noted that in the Jones (2004) study, internalization predicted male BD prospectively, though social influences did not predict changes in internalization. Social influences were operationalized as peer conversations and teasing, and Jones (2004) acknowledged that other aspects of male social contexts may be related to internalization.

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