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Personality and psychological correlates of eating disorder symptoms among male collegiate athletes☆

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ABSTRACT

Despite a proliferation of research on disordered eating in female athletes, few studies have included male athletes. The purpose of this study was to determine which of five personality and psychological variables of interest (i.e., perfectionism, self-esteem, optimism, reasons for exercise, and appearance orientation) best predicted eating disorder status (i.e., symptomatic or asymptomatic) in male athletes. Two hundred three male athletes (M_{age} = 20.29, SD = 1.64) from three National Collegiate Athletic Association (NCAA) Division I institutions participated. More athletes were asymptomatic (80.8%) than symptomatic (19.2%). None of the variables significantly predicted symptomatic status. These findings contrast the literature on predictors of disordered eating symptomatology among female athletes, and suggest the need for further research to identify other potential predictors of eating disturbance among male athletes.

Male athletes are a sub-population of men who may be particularly at-risk for disordered eating due to the inherent emphasis on body weight, size, and shape within the sport environment (Thompson & Sherman, 2010). Little is known, however, about the personality and psychological factors that influence male athletes' risk of developing disordered eating attitudes and behaviors, though research with female athletes (e.g., Brannan, Petrie, Greenleaf, Reel, & Carter, 2009; Petrie, Greenleaf, Reel, & Carter, 2009) and existing theoretical models (e.g., Petrie & Greenleaf, 2012) provide direction. Variables that have been related to eating disorder symptomatology in female athletes include perfectionism (Schwarz, Gairrett, Aruguete, & Gold, 2005; Petrie et al., 2009), self-esteem (Berry & Howe, 2000; Brannan et al., 2009; Engel et al., 2003), reasons for exercising (Petrie et al., 2009), and appearance orientation (Petrie et al., 2009). Because the aforementioned variables are important in understanding eating disorders in female athletes, it would seem that they also warrant investigation with male athletes.

Athletes generally are more perfectionistic than nonathletes (Schwarz et al., 2005), and perfectionism is a correlate for bulimic symptomatology (Jacobi, Hayward, de Zwann, Kraemer, & Agras, 2004). Such perfectionism, in particular being self-critical and having high standards, may increase the likelihood of negative self- and body-evaluations and thus the potential of engaging in disordered eating. Research regarding the association between perfectionism and disordered eating has been conducted primarily with female athletes (Petrie et al., 2009) and findings have been equivocal (e.g., Haase, Prapavessis, & Owens, 2002), suggesting the need to examine it multidimensionally in samples of male athletes.

Psychological well-being can be represented through high levels of self-esteem and optimism; individuals scoring high on these dimensions would be less likely to internalize societal pressures about appearance and eschew emotional eating as a coping response to stress. Engel et al. (2003) found that self-esteem was related inversely to drive for thinness and food restriction among female collegiate athletes; no such association occurred in a study of male athletes (Milligan & Pritchard, 2006). Similarly, there is evidence that optimism has protective effects against disordered eating among young adult men and women (e.g., Brown, Schiraldi, & Wrobleski, 2009).

Although training for sport performance is likely the primary reason athletes exercise, pressures from society and sport to "look like" or have an "athletic" appearance (e.g., lean and muscular) also may play a role (Galli & Reel, 2009). For female collegiate athletes, exercising to be more physically attractive significantly increased the likelihood of their being classified as symptomatic/eating disordered (Petrie et al., 2009). Among men, exercising to enhance appearance has been related to lower body esteem (Strelan & Hargreaves, 2005) and higher levels of disordered eating (Furnham, Badmin, & Sneade, 2002).

An increasing emphasis on and concern with appearance may lead men to become more dissatisfied with the size and shape of their

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bodies, which is a known risk factor in the development of bulimic symptomatology (Stice, 2002). Such a relationship has been found in female athletes (e.g., Petrie et al., 2009), and college-aged male athletes reported being strongly influenced by the media, peers, and coaches to focus on the appearance of their bodies, which is the central characteristic of appearance orientation (Galli & Reel, 2009).

Because so little is known about psychological and personality correlates of disordered eating among male athletes, we examined the relation of perfectionism, self-esteem, optimism, reasons for exercise, and appearance orientation to eating disorder classification. Knowledge of the personal characteristics related to eating disorder symptomatology in male athletes will be useful in helping coaches, athletic trainers, and others with a vested interest in the health and well-being of athletes identify and intervene with those athletes who might be at an elevated risk for problematic eating behavior. We hypothesized that symptomatic male athletes would report lower levels of self-esteem and optimism, be more likely to report exercising to improve their appearance, and place more emphasis on appearance than their asymptomatic peers. Due to the equivocal findings regarding perfectionism, no specific hypothesis was made.

1. Method

1.1. Participants

Male athletes ($n = 203$; $M_{age} = 20.29$ years, $SD = 1.64$; $M_{BMI} = 27.51$ kg/m^2, $SD = 5.25$) from three NCAA Division I institutions in the Mountain West, Southwest, and Midwest regions of the United States participated. These athletes were part of a larger study of the physical and psychological health of student-athletes funded by a grant from the NCAA. Any male athlete who participated in a varsity sport at the time of recruitment was eligible to participate. Athletes were White (58.1%), followed by Hispanic/Latino (30.5%), Asian–American (7.4%), African–American (1.5%), and "other" (2.5%); 27.6% were freshmen, 24.6% sophomores, 28.1% juniors, and 19.7% seniors. Athletes participated in 16 sports, including football ($n = 102$), baseball ($n = 25$), track & field ($n = 21$), swimming ($n = 13$), basketball ($n = 8$), lacrosse ($n = 6$), cheerleading ($n = 5$), cross-country ($n = 5$), golf ($n = 4$), ice hockey ($n = 4$), diving ($n = 2$), fencing ($n = 2$), alpine skiing ($n = 2$), wrestling ($n = 2$), volleyball ($n = 1$), and soccer ($n = 1$). According to criteria suggested by Sundgot-Borgen (1994), the vast majority ($n = 147$) of the athletes in this sample were classified as 'ball game' athletes, followed by 'power' ($n = 21$), 'endurance' ($n = 18$), 'technical' ($n = 8$), 'aesthetic' ($n = 7$), and 'weight dependent' ($n = 2$).

1.2. Instruments

1.2.1. Demographics

We assessed age, race/ethnicity, current height and weight, grade level, and sport.

1.2.2. Disordered eating

The 50-item Questionnaire for Eating Disorder Diagnoses (Q-EDD; Mintz, O'Halloran, Mulholland, & Schneider, 1997) was used to classify the athletes: *eating disordered* (i.e., anorexia, bulimia, subthreshold bulimia, non-bingeing bulimia, and binge eating disorder), *symptomatic* (i.e., some symptoms, but not sufficient for a diagnosis), or *asymptomatic* (i.e., no diagnosable eating disorder symptoms) based on DSM-IV criteria. Mintz et al. (1997) provided extensive evidence on the scale's reliability and validity, and it has been used effectively to determine eating disorder classification in male and female athletes (Petrie, Greenleaf, Reel, & Carter, 2008; Petrie et al., 2009).

1.2.3. Perfectionism

The 29-item from the Multidimensional Perfectionism Scale (MPS; Frost, Marten, Lahart, & Rosenblate, 1990) measured five dimensions of perfectionism: Concern over Mistakes (CM), Personal Standards (PS), Parental Expectations (PE), Parental Criticism (PC), and Doubts about Actions (DA). Mean total subscale scores range from 1, *low*, to 5, *high*. Although originally developed to measure perfectionism in women, the MPS has shown construct validity and reliability in male samples (see Clavin, Clavin, Gayton, & Broida, 1996). Gotwals, Dunn, and Wayment (2003) reported Cronbach's alphas of .84, .80, .70, .80, and .70, respectively, for the CM, PS, PE, PC, and DA subscales in a sample of male collegiate athletes; they also provided evidence for the scale's validity. Cronbach's alphas from the current sample were .85 (CM), .81 (PS), .68 (PE) .77 (PC), and .76 (DA).

1.2.4. Psychological well-being

The 10-item Life Orientation Test-Revised (LOT-R; Scheier et al., 1994) assessed generalized expectancies for positive versus negative outcomes. Total scores can range from 6, *low*, to 30, *high*. Scheier et al. (1994) found the LOT-R to be internally consistent ($\alpha = .78$) in a co-ed sample of undergraduates; Cronbach's alpha in the current study was .79. In addition, they provided evidence for the scale's convergent validity.

The 10-item Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) measured personal judgments of overall worth. Total scores ranged from 10, *low*, to 40, *high*. Petrie et al. (2009) reported a Cronbach's alpha of .88 in a sample of female collegiate athletes; alpha for the current sample was .85. Extensive evidence of the scale's construct validity in men and women has been documented (Robinson & Shaver, 1973).

1.2.5. Reasons for exercise

Twenty-two items from the Reasons for Exercise Inventory (REI; Silberstein, Striegel-Moore, Timko, & Rodin, 1988) measured athletes' motivations for exercising along three dimensions (Petrie, Austin, Harmison, & Jenkins, 1997; Prichard & Tiggemann, 2008): Health and Fitness, Appearance and Attractiveness, and Socializing and Mood Management. Mean scores represent each factor total score and range from 1, *low*, to 7, *high*. Although originally developed with women, the REI has been successfully used to study body image in men (Smith, Handley, & Eldredge, 1998). Petrie et al. (1997) reported Cronbach's alphas of .90 (Health), .86 (Appearance), and .82 (Socializing/Mood) amongst undergraduates; alphas for the current study were .91, .82, and .81. The factors have been associated significantly with obligatory exercise, and socializing/mood and appearance were related to higher levels of bulimic symptomatology and body dissatisfaction (Brannan et al., 2009).

1.2.6. Appearance orientation

The 12-item Appearance Orientation scale (MBSRQ-AO; Cash, 1994) assessed how invested athletes were in their looks and how much time/focus they put into trying to improve their appearance. Total score is the mean and can range from 1, *low investment*, to 5, *high investment*. The MBSRQ has been used as an indicator of body image in men as well as women (e.g., Pritchard, 2014). Alpha for the current study was .79.

1.3. Procedures

We obtained approval from each of the three school's IRBs and the athletic directors and head coaches from each school's athletics department. The researcher at each institution scheduled data collection times directly with the head coaches who agreed to have their athletes participate. Each data collection was anonymous and voluntary, and took place throughout the year with only the researcher present to administer the survey packet. Upon completion, the researchers provided the athletes $5.00 for their participation in compliance with NCAA guidelines.