

**CURRENT ISSUES IN NORTH AMERICAN SPORT
PSYCHOLOGY: IDENTIFICATION AND PREVENTION OF
WEIGHT PRESSURES AND BODY IMAGE CONCERNS AMONG
ATHLETES**

Justine J. Reel
University of Utah

ABSTRACT: Athletes have faced extreme physical and psychological demands associated with reaching peak performance. Some athletes have been “at risk” for developing unhealthy eating practices to lose or gain weight in attempts to become more competitive. Weight pressures associated with sport participation have included having a perceived performance advantage with weight changes, weight requirements, revealing team uniforms, teammates and coaching comments. Additionally, success for certain sports (i.e., “aesthetic” sports), such as gymnastics and diving, may be closely tied to the appearance of the body shape or lines while performing stunts. This paper will provide an overview of research about weight pressures and body image concerns among athletes and will recommend assessment and prevention strategies to sport researchers and practitioners from across the globe.

KEYWORDS: Disordered eating, weight pressures, body image.

TENDENCIAS ACTUALES EN PSICOLOGÍA DEL DEPORTE EN NORTEAMÉRICA: IDENTIFICACIÓN Y PREVENCIÓN DE LAS PRESIONES RELATIVAS AL PESO Y A LAS PREOCUPACIONES SOBRE LA IMAGEN CORPORAL ENTRE ATLETAS

RESUMEN: Los deportistas se han enfrentado a duras exigencias de carácter físico y psicológico asociadas con el logro de un máximo rendimiento. Algunos deportistas han estado “en ries-

go” por haber desarrollado prácticas alimentarias no saludables para perder o ganar peso con el fin de ser más competitivos. De entre las presiones relacionadas con el peso en la competición deportiva, se encuentran el tener una ventaja en el rendimiento percibido como consecuencia de cambios en el peso, requisitos sobre el peso, el uniforme del equipo que resulta revelador y comentarios de los compañeros de equipo y de los entrenadores sobre el cuerpo de la deportista. Además, el éxito en ciertos deportes (deportes ‘estéticos’), tales como la gimnasia y el salto de trampolín, puede estar estrechamente relacionado con la forma del cuerpo o las curvas mientras realizan acrobacias. Este artículo proporciona una visión general sobre la investigación centrada en las presiones relacionadas con el peso y las preocupaciones sobre la imagen corporal entre deportistas e incluye algunas estrategias de seguimiento y prevención para los investigadores y los deportistas de todo el mundo.

PALABRAS CLAVE: Trastornos alimentarios; Presiones relacionadas con el peso; Imagen corporal.

QUESTÕES ATUAIS NA PSICOLOGIA DO DESPORTO NORTE-AMERICANA: IDENTIFICAÇÃO E PREVENÇÃO DAS PRESSÕES SOBRE O PESO E DAS PREOCUPAÇÕES COM A IMAGEM CORPORAL ENTRE ATLETAS

RESUMO: Os atletas são confrontados com extremas exigências físicas e psicológicas quando procuram alcançar o seu máximo desempenho. Alguns atletas correm o "risco" de desenvolver práticas de alimentação pouco saudáveis para perder ou ganhar peso na tentativa de se tornarem mais competitivos. Pressões sobre o peso associadas à participação desportiva incluem ter uma vantagem percebida de desempenho com alterações de peso, requisitos de peso, uniformes da equipe reveladores e comentários de companheiros e treinadores. Adicionalmente, o sucesso em certos desportos (i.e., desportos "estéticos"), como a ginástica e o mergulho, pode estar intimamente ligado à aparência e forma do corpo ou das suas linhas durante a execução dos movimentos. Este artigo irá fornecer uma visão geral da investigação acerca das pressões sobre o peso e das preocupações com a imagem corporal entre os atletas e irá recomendar estratégias de avaliação e de prevenção para investigadores e praticantes desportivos de todo o mundo.

PALAVRAS-CHAVE: Desordens alimentares; Pressões sobre o peso; Imagem corporal.

For centuries athletes have represented role models of physical fitness, muscularity, and health. Early male athletes in the Greek Olympics ran foot races in the nude and were admired for their chiseled physiques. Fast forward to the 2010 Summer Olympics and female beach volleyball players wore bikinis during

fierce competitions while striking a ball across the net. This display of athletic bodies for spectators' observation coupled with a focus on beauty and appearance of athletes has led to modeling careers and photo spreads beyond the competitive playing field for some well-known sport figures (e.g., Anna

Kournikova, Gabrielle Reece, and Brandi Chastain). Other athletes, who have experienced sport-specific pressures associated with achieving a particular weight, shape or appearance standard for sport and the media, have developed unhealthy ways to control their weight including disordered eating and clinical eating disorders. At the extreme, Christy Henrich, an Olympic gymnast and Bahne Rabe, a German gold medalist Olympic rower from the 1988 Seoul Olympics both died from battles with eating disorders developed during their time as athletes in this pursuit for perfection.

History of Body Image among Athlete Research

In the 1970s, following an explosion of female sport participation, researchers began to study female athletes and body image. For example, Snyder and Kivlin (1975) measured the psychological well-being and body image of 328 female athletes and 275 female non-athletes. Contrary to the prevailing stereotype of female athletes being labeled as “girl jocks” or “amazons” and in conflict with the study hypothesis, researchers discovered that female athletes displayed more positive attitudes toward themselves than their non-athlete counterparts. It was evident even in the 1970s with changing sex roles that athletics could be a positive source of self-esteem. Throughout the 1980s athletes were often compared to the general population for eating disorder prevalence studies, but it was not until the

1990s that researchers began to investigate the sport-related differences as well as sport-specific weight pressures that could potentially contribute to unhealthy eating behaviors and negative body image. In the 21st century the focus has slowly evolved into developing strategies to prevent unhealthy weight control methods and to address weight pressures in sport.

Prevalence of Eating Disorders among Athletes

As mentioned, the pressure to perform or to meet body specifications (e.g., amount of muscle mass, size, weight) for one’s sport can lead to dieting behaviors, disordered eating behaviors, and clinical eating disorders such as anorexia nervosa, bulimia nervosa, and eating disorder not otherwise specified (American Psychiatric Association, 2000). Lifetime prevalence rates for anorexia nervosa, bulimia nervosa, and binge eating disorder are 0.9%, 1.5%, and 3.5%, respectively, among females in the general population as compared to 0.3%, 0.5% and 2.0% among males (Hudson, Hiripi, Pope, & Kessler, 2007). In contrast, prevalence rates for eating disorders among the athletic population range from 1-62% depending on the competitive level and type of sports represented (aesthetic versus ball sports), sensitivity of eating disorder measures used, and the way eating disorders were defined (Beals, 2004; Thompson & Sherman, 2010). Estimates for female athletes who engage in disordered eating (i.e., engaging in unhealthy weight control methods

that do not fit full clinical criteria for eating disorders) have been between 15-25% compared to 0 to 3% of female athletes who have full-blown eating disorders (Beals & Manore, 2002; Beals & Hill, 2006; Reel, SooHoo, Doetsch, Carter, & Petrie, 2007; Sanford-Martens, Davidson, Yakushko, Martens, Hionton, & Beck, 2005). For male athletes, Petrie, Greenleaf, Reel and Carter (2008) found that 19% of college male athletes reported eating disorder symptoms (e.g., excessive exercise, restricting) and 14% admitted to fasting and dieting with the intention to lose weight. Nordin-Bates and colleagues (2011) found that 7% of female dancers and 8% of male dancers exhibited eating disordered behaviors (Nordin-Bates, Walker, & Redding, 2011).

Sport has been shown to have both positive and negative influences on body image and disordered eating (Sherman & Thompson, 2009). On the one hand, earlier studies (e.g., Snyder & Kivlin, 1975) have been replicated to show that athletes deride positive self-esteem and body image from strength development and improvement in a sport (SooHoo, 2008) and may be less likely to harm their bodies by engaging in self-destructive eating patterns. However, the pressure to lose weight, gain weight or change weight might lead an athlete to believe that dieting behavior is necessary to facilitate performance achievements. For example, Pritchard and colleagues (2007) found that female athletes were less likely to smoke than the general college population; however, 36% of

female athletes engaged in disordered eating compared to only 13% of their non-athlete counterparts (Pritchard, Milligan, Elgin, Rush & Shea, 2007). Sundgot-Borgen and Torstveit (2004, 2010) reported that elite athletes engaged in more disordered eating than non-athletes and that up to 70% of elite athletes were dieting and using abnormal eating behaviors to reduce weight prior to competition.

Although each sport represents a unique set of demands, certain sports may present a higher risk for disordered eating and body image disturbances due to being inherently more focused on appearance or body weight (Thompson & Sherman, 2010). Athletes in lean or aesthetic sports (e.g., figure skating) have reported more disordered eating than either non-athletes (Smolak, Murnen, & Ruble, 2000), or athletes participating in endurance or ball-game sports (Hausenblas & Carron, 1999). For example, competitive synchronized swimmers reported greater body dissatisfaction than athletes in non-leanness demand sports or non-athlete controls (Ferrand, Magnan, Rouveix, & Filaire, 2007). Similarly, Torstveit and colleagues (2008) reported that a higher number of female elite athletes in leanness sports (46.7%) met the criteria for clinical eating disorders than athletes in non-leanness sports (19.8%) or controls (21.4%) (Torstveit, Rosenvinge, & Sundgot-Borgen, 2008). This vulnerability of females participating in aesthetic sports was underscored by a finding that 61.3% of college female gymnasts displayed

disordered eating characteristics (Petrie, 1993).

Although studies have compared athletes to non-athletes and athletes in leanness sports with athletes in non-leanness build sports, it has been necessary to understand the contextual factors leading to the tendency of an athlete to lose weight, gain weight or maintain an unhealthy weight for his or her frame and height. Therefore, more recent research has examined sport-related weight pressures that are often reinforced by coaches, parents, teammates, and judges (Reel, SooHoo, Petrie, Greenleaf, & Carter, 2010). These pressures can include the revealing nature of the team uniform, weight standards and weigh-ins as well as comments from coaches and other players. The purpose of this paper is to provide a review and update of the work to date about weight pressures for athletes. Based upon existing weight pressures, recommendations for the prevention of disordered eating and body image disturbances will be provided.

Identification of Weight Pressures

Studies over the past two decades have determined that weight pressures may come from internal psychological factors (e.g., perfectionism, being achievement-oriented) as well as external factors related to sport environment. Sport-specific factors could include having try-out weight requirements or weight classes for competitions, weigh-ins to monitor weight changes throughout the season, and uniforms required for competi-

tion and training. Certain individuals (e.g., coaches, teammates, and judges) may play an influential role in enforcing expectations about size, weight and appearance in sport.

An earlier study with high school and college cheerleaders (Reel & Gill, 1996) revealed that 84% of cheerleaders felt pressure to lose weight or to maintain an unhealthy weight to remain competitive. For these cheerleaders, uniform, coach, weight requirements and stunt partner were frequently cited pressures across the squads.

Uniform. Over half of high school cheerleaders (61%), 54% of college female cheerleaders and 41% of male cheerleaders felt that the revealing team uniform created feelings of greater self-consciousness. Torres-McGehee (in press) further explored the uniform pressure among cheerleaders and discovered that cheerleaders who wore more revealing uniforms that displayed midriffs were more likely to experience body image dissatisfaction than cheerleaders with more modest uniforms. This uniform pressure was also identified by 45% of college female swimmers in a separate study (Reel & Gill, 2001). Almost all (99%) of college dancers experienced negative body image and feelings of self-consciousness from their uniform and reported that the costume could serve as a performance distraction (Reel, SooHoo, Gill & Jamieson, 2005).

Teammates/Coach/Judge. Reel and colleagues (2010) investigated a diverse sample of college male and female athletes and found that female athletes

reported that teammates noticing weight-gain represented the most frequently reported weight pressure (37%) followed by the importance of body weight and appearance from friends outside of sport (36%). When separated by sport, cheerleaders (100%), cross country runners (100%), divers (100%) and gymnasts (80%) reported teammates as a weight pressure. Teammate pressure was also reported by 42% of high school, 30% of college female and 24% of college male cheerleaders who expressed concern about having a stunt partner notice weight changes which could undermine the execution of difficult tricks (Reel & Gill, 1996; 1998). Female (70%) and male (88%) college cheerleaders identified the coach as the most salient weight pressure. This coaching pressure was reinforced by Kerr and colleagues' (2006) finding that 44% of current gymnasts reported receiving negative comments about their bodies from coaches and 71% of those gymnasts were more likely to feel they should lose weight than those who had not received a negative body comment (Kerr, Berman, De Souza, 2006). Similar to coaching pressure, over half (57%) of college dancers reported that their choreographer noticed weight gain or loss and selected the thinnest dancers for the most important performance roles (Reel, SooHoo, Gill & Jamieson, 2005). Greenleaf (2004) investigated synchronized skaters and found that in addition to coaches (57%), over half of college synchronized skaters felt that appearance and weight was important to judges

(64%) and teammates (54.7%).

Perceived Performance Advantage.

Competitive college female swimmers (42%) reported that they would expect a perceived performance advantage if they lost weight despite the evidence showing that Olympic swimmers have won races at higher percent body fat percentages (Reel & Gill, 2001). Reel and colleagues (2005) investigated weight pressures among college dancers who indicated that the pressures were less about body weight and more related to striving for an appearance of long and thin bodily lines during performance. Interestingly, 100% of dancers reported mirrors during practices as a weight pressure during training. Almost all (97%) dancers stated that being lighter was a performance advantage and it was easier for partners to lift them during routines. A similar trend was noted among cheerleaders who associated the flyer position (i.e., cheerleader who is thrown in the air by a base) as more prestigious than being a base. In fact, gaining weight could jeopardize a cheerleader's flyer status (SooHoo, 2008; Torres-McGehee, in press). Ski jumpers, rowers and equestrian athletes have also reported the need to keep weight low to excel in their sports (e.g., Sherman & Thompson, 2009; Torres-McGehee, Monsma, Gay, Minton, & Mady-Foster, 2011).

Weight Requirements. College cheerleaders reported having weight limits to try-out for a cheerleading squad. Female cheerleaders (54%) faced a maximum weight limit (e.g., 115 pounds or less)

that was usually not based on height or frame, whereas male cheerleaders (41%) were required to meet a minimum weight limit (e.g., 150 pounds or more) to try-out. Cheerleaders (40%) at the college level were subjected to weekly weigh-ins to monitor weight loss and weight gain, as cheerleaders were expected to gain (males) or lose (females) additional weight throughout the competitive season (Reel & Gill, 1996; 1998). Weight class sports (e.g., boxing, wrestling) have also been associated with weigh-ins and an athlete's ability to "make weight" to remain competitive. Several wrestlers in the 1990s had reportedly engaged in excessive workouts and restricted dietary intake leading to dehydration and death. As a result, the wrestling federation took action and rules have been changed to prevent wrestlers from drastically dropping weight classes during the season (Sherman & Thompson, 2009). Wrestling has brought attention to male athletes who may face weight pressures and be "at risk" for disordered eating and eating disorders.

Male Athletes and Weight Pressures. Male athletes have not been immune from weight pressures in sport and have reported experiencing pressures related to the type of sport and whether the sport was a power sport (e.g., power lifting), endurance sport (e.g., cross country running), or ball sport (e.g., basketball) (Galli, Reel, Petrie, Greenleaf, & Carter, 2011). Compared to female athletes who have reported being encouraged to lose weight or slim down, many male athletes

(e.g., cheerleaders, football players) have been expected to gain weight or become more muscular for their sport. Male athletes in fencing (50%), wrestling (50%) and football (33%) reported facing weight requirements for their sport (Galli & Reel, 2011). In a qualitative study examining the body image among male athletes, Galli and Reel (2009) found that the majority of high-level male athletes felt pressure from friends, family, teammates, and coaches to achieve a specific body type and 80% of male athletes expressed body dissatisfaction. Uniforms were also identified as a pressure for male athletes in several studies (e.g., Reel & Gill, 1998; Galli & Reel, 2009; Galli et al., 2011) and 47% of Division I collegiate male athletes reported often, usually or always that "the uniform makes me aware of my build." A male diver explained the influence of having a tight-fitting swim suit on his sport competition. "I just get self-conscious...basically it comes down to that you're just wearing a Speedo and they [the fans] are in the stands fully dressed..." (Galli & Reel, 2009, p. 101).

In another study that directly tested the influence of different sources of potential weight pressure (e.g., coaches, media), Petrie, Greenleaf, Carter and Reel (2007) found that, although the male athletes reported experiencing generally low levels of pressure across the eight sources, higher levels were related to more bulimic symptomatology, stronger feelings of sadness and anxiety, higher drive for muscularity, and a greater fear of becoming fat. Petrie et al.

acknowledged that the assessment tool used for this study was unable to capture the depth and variety of pressures that male athletes experience, and that a reliable and valid sport-specific measure of weight and appearance pressures for male athletes was needed.

Assessment of Weight Pressures in Sport

Earlier body image questionnaires were traditionally geared toward the general population and neglected to consider the unique physical and appearance demands of athletes. Therefore, it was important to develop a measure designed for athletes to assess weight-related pressures within the sport environment. The Weight Pressures in Sport instrument for Females and Males (WPS-F and WPS-M)* have been constructed to use across all sports and competitive levels with athletes as young as 12 years old (Reel, et al., 2010; Galli et al., 2011).

Females Athletes. In the 1990s the first weight pressures instrument, CHEER, was developed to measure weight-related pressures among high school and college cheerleaders (Reel & Gill, 1996). Cheerleading-specific items were developed to measure pressures such as coaching comments, revealing team uniform, and weight limits to try-out. Although the focus was weight pressures, the intent of this original instrument was to better understand factors within the sport context that might contribute to negative body image and the development of disordered eating (Reel

et al., 2010). It was later modified for college swimmers (Weight Pressures in Swimming; Reel & Gill, 2001), college synchronized skaters (SYNCHROSKATE; Greenleaf, 2004), and college dancers (Weight Pressures in Dance; Reel, SooHoo, Gill, & Jamieson, 2005).

The most recently validated weight pressures measure, the Weight Pressures in Sport for Females (WPS-F), a 16-item weight pressures scale for female athletes, was created by modifying the existing weight pressures measures (i.e., CHEER and Weight Pressures in Dance). The main purpose for developing WPS-F was to allow for the flexibility to assess weight-related pressures of female athletes across all sports in applied and research settings (Reel et al., 2010). Items represent specific sport-related weight pressures that a female athlete might experience in her sport based on categories identified in the literature (e.g., uniform, coach and weight policies) and item modifications from the original CHEER, SYNCHROSKATE, Weight Pressures in Swimming (WPS), and Weight Pressures in Dance (WPD) instruments. For example, one item states, "My coach encourages female team members to maintain a below average weight." Patterned after the response format used for the Weight Pressures in Dance instrument, the WPS-F scale uses a 6-point Likert-type response format with the following anchors: Never, Rarely, Sometimes, Often, Usually, and Always. An open-ended item asked female ath-

letes to list weight pressures in their sport, allowing for more in-depth and unique responses.

The final WPS-F 16-item scale has yielded an overall internal consistency of $\alpha = .90$. The four factors were as follows: 1) Weight Pressures from Coach/Teammates/Sport (e.g., “My coach encourages athletes to drop pounds”); 2) Self-consciousness of Weight and Appearance (e.g., “My team uniform makes me conscious of my bodily appearance”); 3) Importance of Weight and Appearance (e.g., “Body weight and appearance are important to my family”); and 4) Weight Limit (e.g., “My team/sport should have weight limit”). The Cronbach’s alphas for the four emerging factors were .88 (Weight Pressures from Coach/Teammates/Sport), .81 (Self-consciousness of Weight and Appearance), .79 (Importance of Weight and Appearance), and .59 (Weight Limit). The full WPS-F has been published in a previous paper (see Reel et al., 2010).

Weight Pressures for Male Athletes. Weight pressures were studied among male cheerleaders using the original CHEER instrument. An 18-item weight pressures scale for male athletes (WPS-M) was developed by modifying the existing CHEER weight pressures measure (Reel & Gill, 1996) as well as from a comprehensive review of extant male body image literature. The items were written to represent unique pressures that male athletes might experience related to gaining muscle (e.g., “My team performances would improve if I gained

at least five pounds of muscle”), being lean (e.g., “The leanest team members are at a distinct performance advantage”), and being an athlete (e.g., “Body weight and appearance are important to my coach”). For each item, participants responded using a 6-point Likert-type scale that ranged from 1, never, to 6, always (Galli et al., 2011).

The WPS-M is the first instrument that was designed specifically to measure weight pressures among male athletes. Following the development and initial review of the sport pressure items, the 18-items were completed by a large sample of male collegiate athletes that was diverse in terms of race/ethnicity, year in school, sport played, BMI, and region of the U.S. from which they were drawn. Factor analysis revealed that male athletes experience two major types of pressure: (a) pressure to maintain a weight seen as desirable by coaches and teammates (Coach/Teammate Pressures), and (b) pressure to maintain a desirable weight and appearance for individuals outside of sport such as friends, family, and spectators (Appearance Pressures) (Galli et al., 2011). The remaining 14-items (provided in the appendix) are scored as a total score and the two subscale scores (i.e., coach/teammate pressures and appearance pressures).

Recommendations to Eliminate or Reduce Weight Pressures in Sport

Researchers and practitioners should address weight pressures in sport to prevent disordered eating and body image

disturbances. The first step is helping sport professionals to become more aware of the weight pressures identified most frequently by male and female athletes. Educational programs to promote healthy habits for athletes can be provided and prevention strategies are outlined in the next paragraph.

1. *Uniforms.* Whenever possible athletes should choose team uniforms that are comfortable and do not hinder performance. Athletes should select an appropriate size and should not be expected to lose weight to “fit” into a previous player’s uniform or smaller size. The need to wear extremely revealing uniforms should be evaluated for sports such as beach volleyball, cheerleading and figure skating (Reel, SooHoo, Gill & Jamieson, 2005).
2. *Teammates.* Athletes should be discouraged from making weight-related or appearance-oriented comments about themselves or other athletes. Stunt partners should avoid criticizing partner for weight changes (Selby & Reel, 2011).
3. *Weight Requirements.* Weight requirements to try-out should be eliminated. It is important to consider how weight limits may “set up” athletes for unhealthy dieting practices. Weight-related goal setting should be monitored by a registered dietician or discouraged entirely (Reel & Gill, 2001).
4. *Weigh-ins.* Weigh-ins for any reason should be avoided to discourage an over-emphasis on weight. If medical weighing is required, the weigh-in should be conducted in a private setting and the athlete should be shielded from the number. Alternatives to weight, such as body composition or Body Mass Index, should also be discouraged as a way to monitor athletic progress (Selby & Reel, 2011; Sundgot-Borgen & Torstveit, 2010).
5. *Coaches.* Coaches should receive education regarding performance and nutritional requirements especially as they relate to matching food intake requirements to energy expenditure. Coaches and support staff should have a referral network of professionals who specialize in eating disorders, substance abuse and mental health treatment in case a problem arises (Whisenhunt, Williamson, Drab-Hudson, & Walden, 2008).
6. *Educational programs.* Education should be provided to athletes about healthy nutrition and hydration. Intervention programs, such as the ATHENA (Athletes Targeting Health Exercise and Nutrition Alternatives) program, are designed to prevent disordered eating among athletes (Elliot, Goldberg, Moe, DeFrancesco, Durham, & Hix-Small, 2004). Efficacious prevention programs have occurred in a team setting and were interactive and peer-led by a trained member of the competitive team (Stice, Shaw, & Marti, 2007; Torres-Mcchee, Green, Leaver-Dunn, Leeper, Bishop, & Richardson, 2011).

CONCLUSIONS

Weight pressures have been studied in a variety of male and female athletic populations. Team uniform, teammates, coaches, weight requirements and perceived performance advantages have emerged as the most commonly reported pressure; however, certain athletes identified unique sport demands. Further work is needed to modify and validate weight pressures assessment tools for use with global athletic populations. Prevention efforts are important to address frequently cited weight pressures which serve to contribute to negative body image, disordered eating, and clinical eating disorders.

REFERENCES

- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text revision). Washington, DC: Author.
- Beals, K. A. (2004). *Disordered eating among athletes: A comprehensive guide for health professionals*. Champaign, IL: Human Kinetics.
- Beals, K. A., & Hill, A. K. (2006). The prevalence of disordered eating, menstrual dysfunction, and low bone mineral density among US collegiate athletes. *International Journal of Sport Nutrition and Exercise Metabolism*, *16*, 1-23.
- Beals, K. A., & Manore, M. M. (2002). Disorders of the female athlete triad among collegiate athletes. *International Journal of Sport Nutrition and Exercise Metabolism*, *12*, 281-293.
- Elliot, D. L., Goldberg, L., Moe, E. L., DeFrancesco, C. A., Durham, M. B., & Hix-Small, H. (2004). Preventing substance use and disordered eating: initial outcomes of the ATHENA (Athletes Targeting Healthy Exercise and Nutrition Alternatives) program. *Archives of Pediatrics & Adolescent Medicine*, *158*, 1043-1049.
- Ferrand, C., Magnan, C., Rouveix, M., & Filaire, E. (2007). Disordered eating, perfectionism and body esteem of elite synchronized swimmers. *European Journal of Sport Science*, *7*, 223-230.
- Galli, N., & Reel, J. J. (2009). Adonis or Hephaestus? Exploring body image in male athletes. *Psychology of Men & Masculinity*, *10*, 95-108. doi: 10.1037/a0014005
- Galli, N., Reel, J. J., Petrie, T. P., Greenleaf, C., & Carter, J. (2011). Preliminary development and validation of the weight pressures in sport scale for male athletes. *Journal of Sport Behavior*, *34*, 47-68.
- Greenleaf, C. (2004). Weight pressures and social physique anxiety among collegiate synchronized skaters. *Journal of Sport Behavior*, *27*, 260-276.
- Hausenblas, H. A., & Carron, A.V. (1999). Eating disorder indices and athletes: An integration. *Journal of Sport & Exercise Psychology*, *21*, 230-258.
- Hudson, J. I., Hiripi, E., Pope, H. G., & Kessler, R. C. (2007). The prevalence and correlates of eating disorders in the National Comorbidity Survey replication. *Biological Psychiatry*, *61*, 348-358.

- Kerr, G., Berman, E., & De Souza, M. J. (2006). Disordered eating in women's gymnastics: Perspectives of athletes, coaches, parents and judges. *Journal of Applied Sport Psychology, 18*, 28-43.
- Nordin-Bates, S. M., Walker, I. J., & Redding, E. (2011). Correlates of disordered eating attitudes among male and female young talented dancers: Findings from the UK centres for advanced training. *Eating Disorders, 19*(3), 211-233.
- Petrie, T. A. (1993). Disordered eating in female collegiate gymnasts: Prevalence and personality/attitudinal correlates. *Journal of Sport & Exercise Psychology, 15*, 424-436.
- Petrie, T., Greenleaf, C., Carter, J. E., & Reel, J. J. (2007). Psychosocial correlates of disordered eating among male collegiate athletes. *Journal of Clinical Sport Psychology, 1*, 340-357.
- Petrie, T., Greenleaf, C., Reel, J. J., & Carter, J. E. (2008). Prevalence of eating disorders and disordered eating behaviors among male collegiate athletes. *Psychology of Men and Masculinity, 9*, 267-277.
- Pritchard, M. E., Milligan, B., Elgin, J., Rush, P., & Shea, M. (2007). Comparisons of risky health behaviors between male and female college athletes and non-athletes. *Athletic Insight, 9*, 67-78.
- Reel, J. J., & Gill, D. L. (1996). Psychosocial factors related to eating disorders among high school and college female cheerleaders. *The Sport Psychologist, 10*, 195-206.
- Reel, J. J., & Gill, D. L. (1998). Weight concerns and disordered eating attitudes among male and female college cheerleaders. *Women in Sport and Physical Activity Journal, 7*, 79-94.
- Reel, J. J., & Gill, D. L. (2001). Slim enough to swim? Weight pressures for competitive swimmers and coaching implications. *The Sport Journal, 4*. Retrieved from <http://www.thesportjournal.org/article/slim-enough-swim-weight-presures-competitive-swimmers-and-coaching-implications>.
- Reel, J. J., SooHoo, S., Doetsch, H., Carter, J. E., & Petrie, T. A. (2007). The female athlete triad: Is the triad a problem among division I female athletes? *Journal of Clinical Sport Psychology, 1*, 358-370.
- Reel, J. J., SooHoo, S., Gill, D. L., & Jamieson, K. M. (2005). Femininity to the Extreme: Body image concerns among college female dancers. *Women in Sport and Physical Activity Journal, 14*, 39-51.
- Reel, J. J., SooHoo, S., Petrie, T. A., Greenleaf, C., & Carter, J. E. (2010). Slimming Down for Sport: Developing a Weight Pressures in Sport Measure for Female Athletes. *Journal of Clinical Sport Psychology, 4*, 99-111.
- Sanford-Martens, T. C., Davidson, M. M., Yakushko, O. F., Martens, M. P., Hinton, P., & Beck, N. (2005). Clinical and subclinical eating disorders: An examination of collegiate athletes. *Journal of Applied Sport Psychology, 17*, 79-86.

- Selby, C., & Reel, J. J. (2011). A coach's guide to identifying and helping athletes with eating disorders. *Journal of Sport Psychology in Action*, 2(2), 100-112.
- Sherman, R. T., & Thompson, R. A. (2009). Body image and eating disturbance in athletes: Competing to win or to be thin? In J. J. Reel, & K. A. Beals (Eds.), *The hidden faces of eating disorders and body image* (pp. 9-38). Reston, VA: National Association for Girls and Women in Sports.
- Smolak, L., Murnen, S. K., & Ruble, A. E. (2000). Female athletes and eating problems: A meta-analysis. *International Journal of Eating Disorders*, 27, 371-380.
- SooHoo, S. (2008). *Social Construction of Body Image among Female Adolescent Cheerleaders* (Unpublished doctoral dissertation). University of Utah, Utah.
- Stice, E., Shaw, H., & Marti, C. N. (2007). A meta-analytic review of eating disorder prevention programs: Encouraging findings. *Annual Review of Clinical Psychology*, 3, 207-231. Doi: 10.1146/annurev.clinpsy.3.022806.091447
- Sundgot-Borgen, J., & Torstveit, M. K. (2004). Prevalence of eating disorders in elite athletes is higher than in the general population. *Clinical Journal of Sports Medicine*, 14, 25-32.
- Sundgot-Borgen, J., & Torstveit, M. K. (2010). Aspects of disordered eating continuum in elite high-intensity sports. *Scandinavian Journal of Medicine & Science in Sports*, 20, 112-121. Doi: 10.1111/j.1600-0838.2010.01190.x
- Synder, E. E., & Kivlin, J. E. (1975). Women athletes and aspects of psychological well-being and body image. *Research Quarterly*, 46(2), 191-199.
- Thompson, R.A., & Sherman, R.T. (2010). *Eating Disorders in Sport*. New York, NY: Routledge.
- Torres-McGehee, T. M. (In press). Eating disorder risk and the role of clothing on body image in collegiate cheerleaders. *Journal of Athletic Training*.
- Torres-McGehee, T. M., Green, J. M., Leaver-Dunn, D., Leeper, J. D., Bishop, P. A., & Richardson, M. T. (2011). Attitude and knowledge changes in collegiate dancers following a short-term, team-centered prevention program on eating disorders. *Perceptual and Motor Skills*, 3, 711-725.
- Torres-McGehee, T. M., Monsma, E. V., Gay, J. L., Minton, D. M., & Mady-Foster, A. N. (2011). Prevalence of eating disorder risk and body image distortion among national collegiate athletic association division I varsity equestrian athletes. *Journal of Athletic Training*, 46(4), 431-437.
- Torstveit, M. K., Roseninge, J. H., & Sundgot-Borgen, J. (2008). Prevalence of eating disorders and the predictive power of risk models in female elite athletes: A controlled study. *Scandinavian Journal of Medicine & Science in Sports*, 18, 108-118.
- Whisenhunt, B. L., Williamson, D. A., Drab-Hudson, D. L., & Walden, H. (2008). Intervening with coaches to

promote awareness and prevention of weight pressures in cheerleaders. *Eating and Weight Disorders*, 13(2), 102-110.

Manuscrito recibido: 28/07/2011

Manuscrito aceptado: 01/12/2011

Appendix

Weight Pressures in Sport for Males (WPS-M)

Please circle the number on the 6-point scale listed below that best describes how you truly feel about your current situation and team. There are no rights or wrong answers, so please answer honestly.

	Never	Rarely	Sometime	Often	Usually	Always
1. My coach places an emphasis on team members' weight.	1	2	3	4	5	6
2. The leanest athletes get chosen for the best positions on the team of the best positions in a game/competition.	1	2	3	4	5	6
3. My teammates notice if I put on weight.	1	2	3	4	5	6
4. My team performance would improve if I gained at least 5 pounds of muscle.	1	2	3	4	5	6
5. My coach encourages athletes to gain muscle mass.	1	2	3	4	5	6
6. My team uniform makes me aware of my build.	1	2	3	4	5	6
7. The crowd scrutinizes my body and makes me concerned about my weight and appearance.	1	2	3	4	5	6
8. Body weight and appearance are important to my coach.	1	2	3	4	5	6
9. Body weight and appearance are important to my family.	1	2	3	4	5	6
10. Body weight and appearance are important to my friends outside of my sport.	1	2	3	4	5	6
11. Any of my body flaws are readily apparent in my uniform.	1	2	3	4	5	6
12. Weigh-ins are held periodically throughout the season.	1	2	3	4	5	6
13. My coach notices changes in my weight.	1	2	3	4	5	6
14. The leanest team members are at a distinct performance advantage.	1	2	3	4	5	6