

**AASP Conference 2020: Panel Discussion**  
**Making Weight: Risks and Rewards - 2020**

**Presented by**

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Highly competitive individuals strive to better themselves and search for a winning edge. Some believe there exists an ideal physique thought to be necessary for optimal performance. Some feel pressured to achieve a particular aesthetic demanded by one's sport, dance or performance culture. Such beliefs and pressures combined with intense competitive interest in meeting and exceeding performance and cultural demands, can prompt urges to change eating, exercise patterns and one's body (Voelker & Reel, 2020).

Pressure to change one's body, size or shape can be influenced by a variety of factors including health, performance related beliefs, an idealized aesthetic, weight classes, financial pressure, substance use, injury, early specialization, social media exposure, stress, history of mental illness, the training culture and more. These factors will be summarized below and addressed in the Association for Applied Sport Psychology (AASP) Conference 2020 Panel Discussion. The goal of this panel entitled, "Making Weight: Risks and Rewards 2020", will be to improve awareness of and prevention of the risks associated with weight related matters, beliefs, practices, and policies inherent in the sport and performance cultures.

Thank you for your interest and we welcome your questions and concerns.

### **Weight Gain**

Weight change portends both benefit and risk. For example, athletes, dancers and performers who lose weight during intense periods of activity will benefit from subsequent rehydration and weight restoration to sustain good health. Following intense activity, weight restoration and rehydration is vital for optimizing the benefits of strength and conditioning programs. For undernourished individuals, weight gain can improve reaction time, recovery time, focus and concentration (Ferragud, A., 2020). Additionally, weight gain may improve performance for individuals participating in sports or activities like hammer throwing and defensive play in football where greater body mass facilitates performance (Deshpande, N. et al, 2020).

### **Weight Loss**

Weight-loss, is commonly associated with improved health markers like lower LDL-C or bad cholesterol, lower blood pressure, lower blood sugar and lower heart rate, etc. (American Diabetes Association, 2018; Williams, K. A. et al, 2018)). Weight loss can augment performance for some athletes like weight lifters and jockeys and may improve subjective scoring in aesthetic activities like diving, gymnastics, dance, certain stage performances and figure skating. Weight

loss can improve speed for athletes in endurance sports like track, and cross-country running, and in anti-gravity sports like rock climbing, long-jump, and high-jump. For athletes who participate in sports having “weight classes” like wrestlers, boxers, mixed martial arts and weight lifters, weight loss may be necessary to remain eligible for competition (Sundgot-Borgen, J. & Garthe, I., 2011).

Unfortunately, rapid and/or large weight changes pose risk. Rapid weight loss is understood as the reduction of a significant amount of body weight of 2–10 % or more over a period of 2 to 3 days (Artioli, G. et al., 2016). Adding to this risk, is the use of dangerous weight reduction methods including starvation, severe restriction of fluid intake and intentional sweating (Artioli, G., 2016). Large and rapid weight losses or gains, and/or use of extreme weight loss strategies, threaten physical and emotional health and later increase risk of escalating body weight, disordered eating behaviors and eating disorders (Neumark-Sztainer, D., 2011).

### **Weight Classes**

Combat sports divide athletes into weight divisions to reduce size, strength, range or leverage differences between competitors. Fighters can compete in weight divisions lower than their daily weight, using body mass manipulations, or weight loss strategies including dieting, increased exercise, and fluid restriction, etc., to succeed in “making weight”. The most frequently reported making weight behaviors in combat sports are excessive exercise followed by fasting, skipping meals, spitting, use of a sauna or rubber suits, laxatives, diuretics, and vomiting. The results of studies with professional athletes in wrestling, judo and taekwondo showed a pattern of persistent and ongoing struggle regarding nutrition related decisions and practices (Patersson, S. & Berg, C. M., 2014). Athletes in Mixed Martial Arts report greatest use of sauna and water intake and second- highest use of rubber/plastic suits (Barley, O. R., et al., 2018). While elite male boxers reported significant reduction of energy, carbohydrate, protein, fat and water consumption and reduced intake of most vitamins during pre-competition weeks, including vitamins A, E, and folate, indicating a low-caloric and low-carbohydrate diet in elite

boxers overall (Reljic, D. et al., 2015). These diet intake modifications can facilitate making weight but also pose substantial risk to health and life. Dehydration, malnutrition and rapid weight loss, risks disruption in the body's vital electrolyte balance, related cardiac abnormalities and risk of death. In example, boxer Leandro Souza, was 26 years old, flyweight boxer Yang Jian Bing was 21 years old, and kick boxer Dennis Munson was 21 years old, when they died while cutting weight (Rondel Clark Foundation, 2018). David Alexander Acevedo, from Nicaragua, was a 23, year, old boxer who died trying to lose 10 pounds in two days in order to make weight (Lahara, R., 2015). And, martial arts fighter from Perth, Australia, Jessica Lindsay was 18 years old (2017) when she died while cutting weight in preparation for a fight (National Western Australia News, 2017).

According to the Rondel Clark Foundation (2018), three more fighters recently died. "The first of the deaths occurred on Nov. 9, when Billy Saylor, a freshman at Campbell University in Buies Creek, N.C., died of cardiac arrest after riding an exercise bike and refusing liquids as he tried to lose six pounds. He was 19 years old. Two weeks later, on Nov. 21, Joseph LaRosa, a senior at the University of Wisconsin-La Crosse, died of heat stroke after dressing in a rubber suit and riding a stationary bike in an attempt to lose four and a half pounds. He was 22. And on Dec. 9, Jeff Reese, a junior at Michigan, died of kidney failure and heart malfunction while wearing a rubber suit and working out in a room heated to 92 degrees. He was 21 (Rondel Clark Foundation, 2018)." These are tragic and unnecessary lost lives.

Longer term, studies show a positive relationship between engaging in making weight practices and later high body weight (Dulloo, A.G. et al, 2015), binge eating, and eating pathology (Neumark-Sztainer, D et al., 2011).

Achieving an ideal weight for many athletes and performers is commonly considered essential for optimal performance. Given the complexity and pervasive nature of weight related matters, sport systems, coaches, medical personnel, therapists, dietitians, educational

institution policy and corporate practices may struggle to adequately protect the athlete/performers health and safety.

### **Cultural Influences**

Pressure to achieve a certain body ideal, ie., smaller, larger, more muscular, less muscular, or more linear, etc. are common in the current culture. Many factors can powerfully influence an individual's perspective on their body size, shape and likeability and include, developmental, genetic, neurochemical, biological and sociocultural factors. Certain experiences in early childhood or adulthood can influence body satisfaction including history of loss, separation, grief, physical, emotional or sexual abuse, trauma, serious illness or accidents. Conditions both inside the sport/performance environment and outside of sport/performance can influence an individual's experience of their body, their relationship with food and subsequent health and eating disorder risk.

### **Financial Pressure**

Professional athletes, dancers and performers worry about training time, contract extensions, injury risk and professional longevity. Financial status is more than ever contingent on scores, wins and potential for lucrative contracts or endorsements. The costs of not making weight or meeting weight related expectations are high and may include termination of the athletic event, lost pay, and possibly instituted fines. The results of canceled performances, matches or contests may negatively affect rankings, contracts and subsequent schedules. Financial costs of canceled events for some can mean the inability to meet the basic financial needs of day to day living.

### **Stress**

The U.S. population in general reports high levels of stress. Short term stress is known to suppress appetite while more enduring stress is associated with increased cortisol production and increased appetite. Characteristic of stressful conditions are financial pressures,

unemployment, both parents working to cover family expenses, workers sacrificing more hours weekly than in previous generations, high cost of medical care, and/or unavailability of medical care for many. Families report less leisure time and more uncertainty regarding the affordability of expenses such as higher education, health insurance and retirement, etc. By 2019, 30.9 million people in the United States had no health insurance (Rudden, J., 2019). Youth, high school, and college athletes, report high levels of stress with intense pressure to get good grades (61%), look good (29%), fit in socially (28%) and cope with alcohol and drug consumption by others or themselves (50%) (Horowitz, J. M., 2019). Students have less free time, and less sleep in-order-to meet the demands of academic, family, social, and sport related responsibilities. The NCAA Self Study (2016), showed that college athletes chronically have inadequate sleep averaging approximately 6 hours of sleep nightly and far below recommended standards. Sleep deprivation is associated with changes in production of ghrelin and leptin, associated with increased appetite and risk of binge eating (Cerolini, S., et al., 2020).

### **Early Specialization**

Early specialization (ES) has contributed to the stressful conditions for athletes, dancers, performers and their families. ES nets longer competitive seasons, year around training, more out of sport conditioning, longer practice sessions, and more time engaged in training and related travel. ES has “pigeon-holed” the child’s focus and identity development at an early age and required families to sacrifice more time and dollars for their child’s participation. Families, feeling the pressure of dollars invested, may unintentionally pressure their children to excel and achieve in ways that compensate for dollars spent. ES adds many complicated layers of stress to an already stressed system. ES threatens to disrupt vital psycho-social experience and identity development necessary for future physical and emotional health. Rates of ES among athletes has dramatically increased and poses risk to mental health (Gould, D., 2013).

## **Mental Health**

Rates of eating disorders are higher than in previous generations and have covaried with increased rates of depression, anxiety, substance use and behavioral problems. Rates of mental illness in the general population, have escalated steadily over the past 30 years (Ghandour, R. M., 2019), along with rates of crime and domestic violence co-occurring with the more recent COVID-19 pandemic. Anxiety and depression are reported by 70% of teens and 55% report that bullying is a major problem in their community (Horowitz, J. M., 2019). Sadly, suicide rates have increased 30 percent over a seventeen-year period from 1999 to 2016 (Centers for Disease Control and Prevention, 2019). Suicide is now the second leading cause of death among youth, teens and young adults in the United States (National Center on Birth Defects & Developmental Disabilities, 2019).

## **Substance Use**

Prevalence of alcohol, nicotine and other substance use among athletes is higher than in the general population and falls in the third most prevalent category of substance abuse risk just behind, miners and construction workers (Bush, D. M., & Lipari, R.N. (2015). A wide variety of factors may contribute to substance use and abuse risk including genetic vulnerability, neurochemical predisposition, performance enhancement related pressure, injury recovery, stress management, mood and anxiety regulation, substance accessibility, and personal history. There is much variability in co-occurrence rates of substance use disorders and eating disorders but recent findings indicate co-occurrence rates up to 34% for bulimic symptoms and 44% for symptoms of anorexia nervosa (Munn-Chernoff, M. A. et al, 2020).

Much recent research highlights the relationship between head injury and concussion and increased risk of substance use and mood disorders. Head trauma can influence the incidence of addiction. Head injury resulting in chronic traumatic encephalopathy or CTE, may affect parts of the brain that control memory, impulse control, emotions and depression. It is

these factors and others that can influence the incidence of stress, emotional illness, obsessive behavior, substance abuse, addictions and/or disordered eating.

## **Social Media**

Body image is commonly understood as one's perception and experience of their own body. Positive body image can contribute to higher self-esteem and confidence in one's ability to perform well in sports. Although physiques of athletes are celebrated in the media and upheld as societal ideals, a recent study reported that 17.9% of athletes from 20 different sports experienced moderate or severe body image disturbances (Kristjánsdóttir, et al., 2019). Body image dissatisfaction has consistently been shown to be the strongest predictor of eating disordered behaviors (Reel & Gill, 1996). Rapid transmission of high volumes of data including repeated exposure to critical commentary, idealized photos, and social media comparisons, risks perpetual emotional overload. Exposure to social media is associated with body dissatisfaction among men and among members of marginalized populations including LGBTQ. This effect is smaller than among women but significant (Tiggemann & Slater, 2013).

Rates of social media use continue to increase with such trends predicting greater body shaming and increased body surveillance. The detrimental impact of social media has been largely attributed to social comparison, appearance commentary, and self-objectification (Niu et al., 2020). Social media is indeed the epicenter of frequent and rapid social comparisons and internalization of appearance related ideals (Tiggemann & Miller, 2010). Comparing one's appearance to others is a common daily or multiple times daily event (Chua & Chang, 2016; Fardouly et al., 2015) with posturing attractiveness and appeal as the goal. Posted images may be filtered, enhanced, touched, re-touched or selected from dozens of available retakes. Of note, is the upward direction of social media related comparisons, driven by unrealistic perceptions, and characterized by idealized expectations, and unfortunately, resulting in lower body satisfaction (Fardouly et al., 2015).



## **Body Shaming**

Negative body image or body dissatisfaction can occur at any age and especially given pressure to change appearance or weight for the purpose of improving performance (Kristjánisdóttir et al., 2019). Body related shaming, teasing or bullying at any age may influence later body confidence, emotional health and eating disorder risk. Developmental factors such as body related perspectives modeled by parents, and exemplified by community and media, can have lasting impact on children's personal views of their own body (Hart, L. M., et al., 2016). Early familial experiences related to food choices, dining customs, and values, are the major determinants of childhood dietary practice and subsequently influence body image and eating related vulnerabilities (Hazzard, V. M. et al., 2020). Elevated focus on dieting, food, eating, body size, shape or weight, during childhood, and even when necessary for medical conditions such as diabetes or cystic fibrosis, are associated with subsequent risk of negative body image and disordered eating (Conviser et al., 2018).

## **The Training Environment**

Mary Cain's story, as the youngest American track and field athlete, on the United States World Championship Team in 2013, was told in a recent New York Times article by Lindsay Crouse (Crouse, L., 2019). Ms. Cain described her training environment as critical, fat shaming and she was left feeling convinced she had to get "thinner, and thinner, and thinner." She was weighed, reprimanded and shamed in front of other team members. In effort to meet expectations, "she lost weight, lost more weight and, endured both physical and emotional abuse and experienced her body breaking down (Crouse, 2019). Cain described a plethora of resulting mental and physical health-related conditions including low body weight, amenorrhea, multiple bone fractures (RED-S) (Mountjoy, M. et al., 2014). Lower confidence, fatigue, self-injury, declining athletic performance and suicidal feelings emerged.

## **Cultural Expectations**

Individuals will forever strive to better themselves and search for a winning edge. The pressure to fit the particular aesthetic expected in one's sport, dance or performance, coincides with existing performance expectations and beliefs regarding the ideal physique needed to achieve optimal performance (Hartmann et al., 2018). In line with these performance expectations, athletes, dancers and performers may feel compelled to change their body weight, shape, or size. The attempt to meet performance demands can prompt interest in changing eating and exercise patterns (Voelker & Reel, 2020).

## **Recommendations**

1. Eliminate outdated or dangerous practices
2. Eliminate rapid and severe weight change practices
3. Encourage athletes and performers to participate in activities that best suit their body type and longer-term health
4. Carefully consider athletes and performers who may be living in impoverished circumstances who may have less access to current information concerning safe practices
5. Carefully consider improving access to best practice information by providing this information in multiple languages
6. Provide nutritional support that helps individuals be the "best version of themselves" short and long term
7. Reduce stigma that impedes use of medical, mental health and nutrition services
8. Help athletes/performers and their support personnel to become more fully aware of the risks of substance use and abuse which frequently co-occur with eating disorders
9. Provide better information for all personnel regarding fitness, health and nutrition conducive to short and long-term healthy lifestyle
10. Evaluate any possible detrimental effects of previous medical, mental health or nutrition support

## **Conclusion**

Athletes and performers will continue to seek ways to advance their success. Future research, must evaluate the sport and performance culture, policy and practice, sport and performance management systems and clinical efforts related to "making weight", and should prioritize the elimination of unhealthy weight control practices thereby preserving short-term and long-term physical and emotional health.

## Questions to be Considered by Panelists and Attendees:

1. What have you observed regarding weight-related issues among athletes and performers over the last ten years?
2. Have you observed changes in how weight related matters are addressed in the sport/performance arena over the last decade?
3. What weight or eating related challenges have you observed recently that may be COVID Pandemic related?
4. What policies or actions can the sport/performance culture adopt that can both facilitate improved performance and reduce health risk?
5. Do you feel sport and performance psychology professionals receive adequate training in the management of weight related issues?
6. Changing beliefs and practices in any culture may be challenging. Do you have recommendations for reducing health risk in the current weight/eating culture?

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