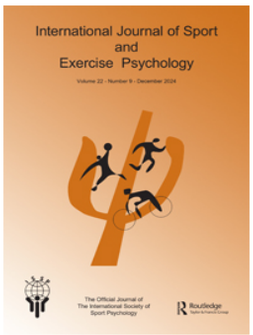

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A weight-inclusive approach to applied sport psychology

Alexander Derbyshire[a], Saemi Lee [a], Matthew Bejar [b], Sierra Cordova[a] and George Crocker [a]

[a]School of Kinesiology, California State University, Los Angeles, CA, USA; [b]Department of Kinesiology, California State University, San Jose, CA, USA

ABSTRACT

Elite-level sport culture places a large emphasis on the pursuit of peak performance at all costs. A common avenue for performance improvement involves the pursuit of leanness, weight loss, and body composition alteration. These practices are based upon weight-centric beliefs and cultural norms that can lead to devastating health consequences for athletes. Sport psychology professionals are uniquely situated to challenge weight-centric norms by implementing weight-inclusive practices and interventions. The purpose of this paper is to educate sport psychology professionals on the dangers of weight-centric practices in sport and provide practical resources for the implementation of weight inclusivity in professional practice. We provide strategies sport psychology professionals can adopt at intrapersonal, interpersonal, and structural levels to promote a weight-inclusive approach to applied sport psychology. Intrapersonal interventions involve seeking education regarding the impacts of weight stigma in both societal and athletic performance contexts. Interpersonal interventions involve the practice of weight inclusivity in professional interactions. We introduced eight principles that can be adopted by sport psychology professionals to make their daily interactions with coaches and athletes more weight-inclusive. Finally, structural interventions centre around the advocacy for and implementation of weight-inclusive policies at the team or athletics programme level. By adopting a weight-inclusive approach, sport psychology professionals can support the physical and mental health of all athletes.

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A weight-inclusive approach to applied sport psychology

In 2013, at the age of 17, Mary Cain became the youngest American to ever qualify for Team USA for the track and field world championships. By 2019, she had been forced to step away from running professionally to save her own life (Cain, 2019). According to Cain, coaches at the Nike Oregon Project subjected Cain and other athletes to strict, weight-based, training standards under the assumption that "thinner = faster." Athletes who did not measure up were subjected to abuse and ridicule by head coach Alberto

CONTACT Saemi Lee slee318@calstatela.edu School of Kinesiology, California State University, 5151 State University Drive, PE Building, Los Angeles, CA 90032, USA

Salazar and other Nike Oregon Project staff. Pursuing elite performance while being forced to make her body thinner and thinner, Cain developed osteoporotic symptoms, missed her menstrual cycle for three years, and developed suicidal ideations. Cain (2019) described how the focus on her weight took precedence over everything, including her personal safety:

> So in 2015, I ran this race, and I didn't run super well … Alberto yelled at me in front of everybody else at the meet, and he told me that I'd clearly gained five pounds before the race. It was also that night that I told Alberto and our sports psych that I was cutting myself. And they pretty much told me they just wanted to go to bed.

Mary Cain is not alone in her experience. Several athletes have come forward in the wake of Cain's story to discuss the negative impacts of coaches and professional training staff using weight as a benchmark for performance (Fleshman, 2023; Goucher & Pilon, 2023). Elite distance runners Kara Goucher and Lauren Fleshman both published books in 2023 detailing their experiences with weight-centric beliefs in running and the resulting negative mental and physical impacts. Goucher was a member of the same Nike Oregon Project team as Cain and experienced many of the same pressures around losing weight to improve performance (Goucher & Pilon, 2023). Fleshman outlines her experience as a standout young runner, describing the pressures placed on young women in running to adhere to weight-centric norms. Fleshman describes how these pressures combined with a lack of understanding of female athletic development among men in sport serve to undermine the health and success of female athletes (Fleshman, 2023). Furthermore, not even the most visible athletes are immune to the dangers of weight-based training programmes. In 1996, major league baseball pitcher David Wells developed an irregular heartbeat and needed to be resuscitated following the use of an unregulated weight loss supplement containing ephedrine after being pressured by the Baltimore Orioles to lose weight (Amore, 2003). Researchers have also found that weight-centric approaches in sport are prevalent despite their harm (Papathomas & Lavallee, 2014; Varea et al., 2024) even among adolescent athletes (Boudreault et al., 2021). Weight management is further normalised in sports with weight categorisations. For example, in combat sports, it is common practice for athletes to endure extreme methods for rapid weight loss and weight gain, despite its negative health consequences, to gain a competitive edge (Lakicevic et al., 2021).

As can be seen from these examples above, weight is often viewed as a controllable factor that will directly influence performance in sport (Papathomas, 2018; Papathomas & Lavallee, 2014). Research shows that sport professionals, including those in sport psychology, hold these misguided assumptions about the relationship between weight, health, and performance (Watkins & Gerber, 2016; Zaroubi et al., 2021). Nevertheless, problems can arise when the mental and physical impacts of a constant focus on weight, body size, and appearance are not adequately addressed. To effectively treat and prevent these problems that arise from weight-centric approaches that view "thin = better performance," it is key for athletes, parents, coaches, and sport psychology professionals (SPPs) to be educated on the complexities of weight science and the dangers of weight stigma. Although she was provided with sport psychology services, Mary Cain (2019) explicitly cites the lack of effective sport psychology support on her Nike team as an exacerbating factor of her declining health. She shared, "part of me wonders if I had worked with more

female psychologists … where I'd be today," also suggesting female practitioners may have been better equipped to identify, support, and advocate for her physical and psychological needs. Education, intervention, and support may make a dramatic difference in the trajectory of an athlete's career (Schinke et al., 2017). Indeed, a growing number of SPPs have contended that we are uniquely situated within the sport system to safeguard athletes from maltreatment (Kerr & Stirling, 2019). Recently, exercise psychology scholars have begun to address anti-fat biases in fitness spaces (e.g., Ebbeck & Austin, 2018; Lee et al., 2024); however, there is a paucity of practical scholarship on weight-inclusive practices within applied sport psychology. Therefore, the purpose of this paper is to raise awareness about the dangers of weight-centric approaches to health and performance. We also introduce strategies SPPs can adopt to implement a weight-inclusive approach to applied sport psychology.

The dangers of a weight-centric approach to sport performance

As sports and athletes continue to grow and professionalise, peak athletic performance is arguably valued more than ever. Coaches and athletes are constantly working to improve, not just physically, but mentally as well. This emphasis on performance-at-all-costs in sport can justify the adoption of weight-centric practices regardless of the harms they may cause to the health and safety of athletes (Boudreault et al., 2021). Moreover, harm and abuse can be difficult to recognise due to the common belief that weight management is necessary for health and performance and that pain and suffering is inevitable in the pursuit of excellence (Douglas & Carless, 2009). As illustrated by the stories of Mary Cain and the other examples mentioned above, there is still plenty of work to be done in understanding how to balance physical and mental performance while avoiding causing harm in either area. Weight-centric approaches to health and performance correlate weight, health, and performance in a way that prioritises thinness, leanness, lower body fat, and/or alteration in weight and body composition as key factors for performance enhancement and athletic success (Busanich et al., 2012, 2014, 2016; Papathomas & Lavallee, 2014). However, weight-centric approaches often fail to consider the negative consequences of prioritising these factors. Research shows that a focus on weight, leanness, and body composition can lead to athletes' mental health concerns such as body dissatisfaction, disordered eating and increased injury risk and contribute to creating a harmful sport culture (Schinke et al., 2021).

Body dissatisfaction

Body image issues are often the starting point for a cascade of challenges that can negatively impact performance. A major driver of body image issues is the ever-present spectre of weight stigma. Weight stigma is characterised by negative attitudes towards and negative feelings regarding larger bodies or fat people (Tylka et al., 2014). Weight stigma is pervasive in modern society and leads to demonstrable negative health outcomes for those who struggle with its impacts, including poor mental health, lower quality of medical care, and avoidance of exercise settings (Thedinga et al., 2021). It is important to note that self-perception of one's body as being too big (i.e., internalised weight stigma), even if not stereotypically fat, can lead to a lower health-related quality of life as society-wide

anti-fat messaging reaches everyone and instils weight stigma on a near constant basis (Zagaria et al., 2023). As an example of the widespread nature of weight stigma and fear of becoming fat, 46% of respondents to a survey exploring anti-fat bias agreed that they would rather give up at least one year of life than become fat (Schwartz et al., 2006). These harsh societal attitudes towards fatness and larger bodies can turn inwards when one's self-perceived weight or body composition falls outside of what they might consider ideal.

Situations like Mary Cain's, where weight and body composition are viewed as highly consequential variables in the equation of peak performance, fail to understand the dangers of being constantly told that one's body is inadequate and is standing in the way of better performance, despite that same body performing at a highly competitive level. A survey of over 700 elite Icelandic athletes representing 20 different sports found that 18% of the respondents presented with severe or moderate body dissatisfaction (Kristjánsdóttir et al., 2019). It is interesting that, despite performing at an elite level and obtaining well above average levels of fitness, many elite athletes may feel as though their bodies do not meet their ideal standards in a sporting context (Jagim et al., 2022). While athletes may perceive that their body is more "ideal" compared to non-athletes in the social context, their tendency to compartmentalise body image into social and sporting contexts can leave athletes feeling dissatisfied with their body in the sporting context where they may experience different pressures from coaches, parents, teammates, and their sporting community around how their body is expected to look and perform (Jagim et al., 2022; Zaccagni & Gualdi-Russo, 2023). The prevalence of body dissatisfaction in athletes in the sporting context demonstrates the weight-centric nature of sport culture and how these weight-centric norms can exacerbate body dissatisfaction. This body dissatisfaction can lead to a belief that an athlete needs to reduce their weight or alter their body composition, disregarding their current performance or body metrics.

Disordered eating, eating disorders, and low energy availability

Another concern is disordered eating (DE) and associated eating disorders (ED). The Australian Institute of Sport and the National Eating Disorders Collaboration define DE as "problematic eating behaviour that fails to meet the clinical diagnosis for an eating disorder" (Wells et al., 2020, p. 2). DE behaviours can include skipping meals, restricting food intake, compulsive eating, and compulsive exercise to the extent that these behaviours do not meet the clinical criteria for an ED (Wells et al., 2020). The consequences of DE include impairments in bone health and development, as well as mental health issues including depression, self-harm, and substance abuse (Wells et al., 2020). DE can also lead to reduced training quality, increased risk of illness, dehydration, and nutritional deficiencies (Wells et al., 2020). Furthermore, DE can also progress into diagnosable ED including anorexia nervosa, orthorexia nervosa, and bulimia nervosa. Anorexia athletica, which entails the use of excessive exercise and restriction of food intake to control body size, is seen among athletes as well (Vasiliu, 2023). In one study, researchers found that athletes competing in sports prioritising leanness (e.g., track and field, gymnastics, wrestling, boxing, cycling) were approximately three times more likely to have dealt with an eating disorder compared to athletes in non-lean sports (Hagmar et al., 2008). Ultimately, feeling the need to control one's eating behaviours, motivated by a sporting culture with an

overwhelmingly weight-centric view of performance, can lead to a multitude of mental and physical health problems that can seriously impact an athlete's well-being.

Recently, the subjects of low energy availability (LEA) and relative energy deficiency in sports (RED-S) have also become a larger focus for sport professionals. It has become clear that chronic overtraining, under-eating and under-recovering along with socio-psychological pressures including sport-specific pressures, weight stigma, weigh-centric training ideologies, can contribute to LEA and RED-S and can have serious health effects (Langbein et al., 2021; Schofield et al., 2020; Wells et al., 2020). LEA is categorised by inadequate energy intake resulting in impaired physiological function and psychological distress (Jagim et al., 2022; Langbein et al., 2021). As the body adapts to lower levels of energy availability it may adapt metabolic function to reduce further weight loss and protect physiological systems, which can lead to increased difficulty in losing weight as the body tries to protect itself (Melin et al., 2019). Due to this protective mechanism, individuals suffering from LEA may not exhibit excessively low weight or body fat but will still experience reduced physical performance (Melin et al., 2019). LEA is also used as an indicator for conditions like RED-S, the Female Athlete Triad (FAT), and the Male Athlete Triad (MAT). RED-S is characterised by inadequate energy intake to meet the exercise energy expenditure of an athlete, resulting in LEA (Cabre et al., 2022). FAT is characterised by the simultaneous presence of LEA, reduced bone density, and menstrual dysfunction in female athletes (Williams et al., 2018). MAT is similar to FAT but instead of menstrual dysfunction, males suffering from MAT experience hypothalamic hypogonadism which results in the disruption of hormonal pathways, impacting energy and fertility (Nattiv et al., 2021). In addition to the physiological impacts of LEA and associated conditions, individuals experience psychological impacts including irritability, social withdrawal, anxiety, and depression, often resulting from the stress associated with injury or extreme focus on performance (Langbein et al., 2021; Schofield et al., 2021). The presence of RED-S, FAT, MAT, and or LEA indicates a situation where high-stress sport environments, reduced energy intake, and chronic training over long periods of time have severely impacted the body's ability to heal, recover, grow, and operate normally. The interplay between the psychological and physiological impacts of LEA highlights the need for a transdisciplinary approach to examining both the physical and mental health of athletes and the associated risk factors that can stem from weight-centric sport environments (Langbein et al., 2021; Schofield et al., 2020).

Injury risk

Athletes who engage in DE or suffer from ED, LEA, RED-S, FAT, and or MAT are also subject to a variety of acute injury risks as each of these conditions can reduce immune function, leading to an increased frequency of illness while slowing recovery and physiological adaptations from exercise (Hagmar et al., 2008; Jagim et al., 2022). As a result of the reduced ability to recover and increased likelihood of low bone density, another major concern is the higher risk of fractures and bone stress injuries (Wells et al., 2020). FAT and MAT are specifically characterised by the presence of reduced bone density, which can be further exacerbated by the other conditions that can co-occur with FAT/MAT including ED and hormonal dysfunction (Jagim et al., 2022; Nattiv et al., 2021). As these conditions are associated with reduced mental health, athletes who sustain an injury

while dealing with one of these conditions can be subject to the negative impacts of poor mental health on recovery (Rogers et al., 2023). Mental health concerns can lead to longer recovery times, increased likelihood of reinjury, and reduced performance when returning from an injury (Rogers et al., 2023). The cycle of these disorders, poor mental health, and injury can self-perpetuate without proper medical and psychological intervention.

Weight stigma and abusive sport culture

Despite commonly held beliefs that sport participation is inherently positive in its focus on self-improvement, physical fitness, and psychosocial health, sport is not inherently protective for athletes (Boudreault et al., 2021; Zaccagni & Gualdi-Russo, 2023). Sport culture often reinforces weight-centric concepts that portray weight control, diet restriction, and moralisation of food intake as signs of an athlete's commitment to improving performance (Papathomas, 2018). These cultural expectations of ideal athletic bodies, mental toughness, and weight-centrism can be weaponised by the abusive coaching staff through weight-based bullying, shaming, and discrimination (Willson & Kerr, 2021). Similar to the bullying experienced by Mary Cain at the hands of her coach, many collegiate athletes have shared their own stories of weight-based abuse. For example, track and cross-country athletes at the University of Oregon, swimmers at the University of California, Berkeley, and softball players at West Chester University have outlined how their coaches used athletes' weight, body composition, and body appearances to bully and shame athletes whom the coaches felt were not meeting performance standards (Arnold, 2024; Goe, 2021; Reid, 2022).

However, these harmful practices are not necessarily handed down from the collective consciousness of sport culture directly to individual athletes. In addition to societal pressures regarding weight, athletes are also subjected to a "sport ethic" (Boudreault et al., 2021, p. 424), in which cultural norms that are celebrated in competitive sports are the acceptance of risk, pain, and injury for the purposes of performance enhancement. Acceptance of these cultural norms may legitimise societal narratives that promote weight loss and weight control as a means of bettering oneself, leading to restrictive dieting practices in pursuit of peak performance (Boudreault et al., 2021; Papathomas, 2018). As the entire ecosystem of sport often serves to celebrate weight-centric practices, conversations around the impacts of such behaviours can be discouraged (Papathomas, 2018). For example, athletes dealing with DE or ED may experience abuse and find their athletic identity called into question, both internally and externally, as their mental health struggles are misperceived as a lack of mental toughness, rather than a consequence of a sport culture that prioritises performance at all costs (Carless & Douglas, 2013; Douglas & Carless, 2009).

The need for a weight-inclusive approach in sport psychology

As illustrated above, the impacts of weight-focused training ideology on body dissatisfaction and mental health often precipitate serious physical conditions and maladaptive behaviours. DE can develop into EDs, as well as LEA, RED-S, MAT, and FAT all stemming from an undue focus on achieving an arbitrary weight or body size to adhere to sport culture norms around what kind of body performs best. Too often, the drawbacks of a

weight-centric approach greatly outweigh any performance benefit and these drawbacks often lead to injury, reduced mental health, and shorter careers (Coelho et al., 2021).

Research on the impacts of weight-centric practices often cites the need for psychological intervention. This means SPPs can play an important role in both prevention and intervention when it comes to weight-centric approaches to sport performance. For example, SPPs can provide psychoeducation on the dangers of weight-centric approaches and, depending on their training and credentials, intervene if harm is caused (e.g., advocating for athletes, treating clinical concerns, providing referrals). Although SPPs are uniquely situated and called to both prevent and intervene in the negative consequences of weight-centric practices, it is unclear whether all SPPs are effectively responding. Although some SPPs have long been advocating for the adoption of critical perspectives regarding bodies (e.g., Busanich et al., 2012), the reality is that weight stigma and weight-centric approaches remain prevalent in the fields of kinesiology (Zaroubi et al., 2021) and in psychology (Watkins & Gerber, 2016).

One reason for some SPPs' adoption of weight-centric beliefs could be the lack of education surrounding the nuances of weight management and a sport culture that prioritises performance at all costs (Busanich et al., 2012, 2014, 2016; Carless & Douglas, 2013; Papathomas & Lavallee, 2014). For example, both the parent fields of SPP, kinesiology and psychology, regularly promote weight-centric beliefs, such as the role of individual responsibility in managing weight, while neglecting the importance of sociocultural factors and the negative impacts of weight stigma (Richardson et al., 2015; Watkins & Gerber, 2016; Zaroubi et al., 2021). Even graduate-level psychology texts focusing on diversity and cultural competencies fail to address the impact of weight bias and weight stigma in professional practice (Watkins & Gerber, 2016). Exercise science students were also found to have a view of weight management that was simplistic and overly informed by cultural narratives around weight and health rather than existing research (Richardson et al., 2015).

The lack of education on weight inclusivity and the socialisation of sport professionals can contribute to the acceptance and perpetuation of weight stigmatising behaviours (Kerr & Stirling, 2019) and the continued harm to athletes. For example, as many SPPs come from an athletic background or may have positive experiences with sports, there is a predisposition to accept traditional sport culture norms, including weight-shaming, excessive exercise, and other athlete maltreatment, as normal in a high-performance environment (Kerr & Stirling, 2019). These experiences coupled with weight-centric disciplinary training can be carried into professional practice that results in high rates of anti-fat bias and weight stigma (Zaroubi et al., 2021). The uncritical acceptance of weight-centrism and conformity to the sport ethic can lead even psychologists and therapists to support unhealthy beliefs regarding weight and DE behaviours as was the case of Mary Cain.

Nevertheless, numerous scholars have argued that it is the professional and ethical responsibility of SPPs to centre cultural competence and athlete well-being in their practice, including the questioning of weight-centric practices (Kerr & Stirling, 2019; Ryba et al., 2013; Schinke et al., 2017). The International Society of Sport Psychology (ISSP) position stand on culturally competent research and practice outlines several postulates emphasising that athletes, coaches, and SPPs are cultural beings and are thus subject to cultural narratives, values, and beliefs that are too often informed by ethnocentric standards (Ryba et al., 2013). These overarching cultural narratives are the same ones that inform our beliefs around the relationship between body size, athleticism,

health, performance, and weight stigma. For example, different cultures have different perspectives on weight and body size, demonstrating the social constructed nature of what is considered an ideal body shape, weight, and size (Abdoli et al., 2024). Moreover, scholars have traced the origins of fatphobia to anti-Black racism and white normativity (Harrison, 2021; Lee et al., 2023; Strings, 2019). Thus, in centering culturally competent practice, SPPs must reconsider their deep-seated beliefs about athletic bodies and work to establish cultural competence as it relates to sizeism. The ISSP position stands on mental health also encourages SPPs to prioritise athlete mental health (Schinke et al., 2017) and occupational health and safety (Schinke et al., 2021) in their work. Thus, it is incumbent upon SPPs to engage with the research surrounding the risks associated with weight-centrism and incorporate weight-inclusive principles to their practice.

Weight inclusivity is the idea that all bodies are worthy of respect, regardless of size, and that the idealisation of specific weights is not necessary for health promotion (Hunger et al., 2020). For our purposes, weight inclusivity also includes the idea that peak performance is not directly related to body size, weight, or composition and, in fact, that weight stigma can serve as an extreme deterrent to peak performance. Weight inclusivity centres the ethical imperative to "do no harm" (Tylka et al., 2014, p. 6) and emphasises a more holistic view of performance, emphasising inclusive thinking around weight and avoiding the stigmatisation of different bodies based on false assumptions about body "ideals" for a given sport. Weight-inclusive practice also promotes a prioritisation and pursuit of holistic athlete health, which involves finding ways to support performance improvement without causing undue mental and physical harm.

How to adopt a weight-inclusive approach to applied sport psychology

In adopting a weight-inclusive approach to applied sport psychology, we outline three levels of intervention based upon a modified socioecological model defined by Cook et al. (2013) for the purposes of reducing stigma: intrapersonal, interpersonal, and structural interventions. The intrapersonal level focuses on enhancing cultural awareness, critically interrogating our beliefs about body size, health, and performance, and reducing personal stigmas. The interpersonal level focuses on person-to-person or group interactions between individuals who may share stigma or come from different levels of experience with stigmatisation. For our purposes, interventions at this level mainly focus on SPPs' interactions with athletes and coaching staff. Finally, the structural level focuses on societal forces and institutions, impacting institutional policies and or agendas. For this paper, we conceptualised structural interventions as working with team and athletic department policies and procedures. The following recommendations were developed based on a review of research and current practices for reducing weight stigma and adopting weight-inclusive practices. We adapted existing frameworks and concepts (e.g., Clifford & Curtis, 2015; Tylka et al., 2014; Zuest et al., 2022) to fit SPP-specific scenarios and provided examples of how interventions could be applied.

Intrapersonal level interventions

At the intrapersonal level, self-reflection and education surrounding misconceptions regarding the relationship between weight and health are needed (Zaroubi et al., 2021). It is also

crucial that SPPs critically examine their own acceptance of and adherence to the "sport ethic." Self-assessing implicit bias can be difficult; however, Project Implicit (n.d.) offers several different implicit association tests (IAT) for free online (www.implicit.harvard.edu), including one on weight that can help highlight an implicit preference for fat or thin bodies. Given our context of athletic performance, continued education must also focus on the dangers associated with weight-centric training programmes as seen in the potential for mental health concerns; ED, RED-S, MAT, and FAT; and reductions in performance.

Education regarding misconceptions around the relationship between weight and health can also be useful for breaking down implicit bias and larger societal notions informed by weight stigma and anti-fat bias. Educational interventions have successfully reduced weight stigma and anti-fat bias among exercise students and professionals (Richardson et al., 2015; Zuest et al., 2024). We suggest SPPs consider the strategies and associated resources presented in Table 1 to build cultural competencies regarding weight-inclusive practice.

Interpersonal level interventions

Interpersonal level interventions are typically the method through which many SPPs will interact with the impacts of weight-centrism directly. We suggest SPPs adopt the following eight principles to adopt a weight-inclusive approach to their interpersonal interactions in applied sport psychology. These principles are based on Tylka et al.'s (2014) seven principles of a weight-inclusive approach in a public health and patient care context. We modified Tylka et al.'s (2014) principles to incorporate the athletic performance focus of SPPs:

1. Do no harm.
2. Acknowledge that athletic bodies vary and that there are no "ideal" body shapes or sizes for a given sport. Performance improvements must be pursued outside of trying to make an athlete's body fit existing body size "ideals."
3. Health and performance are multidimensional and are influenced by factors that are in our control (e.g., type of training) as well as out of our control (e.g., genetics, access to resources). Performance enhancement efforts should be pursued holistically, avoiding a narrow focus on a single factor such as weight or body composition management.
4. Ensure that athletes' safety and quality of life are prioritised over performance. Performance benefits must be weighed against the potential negative impacts to athletes.

Table 1. Strategies for building a weight-inclusive mindset among sport psychology professionals.

Strategies	Suggested resources
Reflect on, and address, stigmatising beliefs and assumptions about weight	Ebbeck & Austin (2018)
Examine research regarding the lack of a causal relationship between weight and health	Flegal et al. (2013) and Tomiyama et al. (2013)
Explore the role that weight-centrism plays in psychology as an institution and the fitness industry and what changes can be made to the current paradigm	Watkins & Gerber (2016) and Williams et al. (2023)
Examine how weight stigma can lead to demonstrable negative health outcomes	Puhl & Suh (2015) and Thedinga et al. (2021)
Learn about weight-inclusive health promotion policies that do not centre weight loss as a primary method for health improvement	Hunger et al. (2020) and Tylka et al. (2014)
Attributions, weight, and health (https://wellness-made-real.thinkific.com/courses/attributions)	Escun et al. (2023) and Zuest et al. (2022, 2024)

5. Recognise that athlete bodies will change based on a variety of timeframes (e.g., seasonally, during periods of high/low training volume, throughout an athlete's menstrual cycle, and throughout puberty). Avoid expectations of rigid consistency in an athlete's body shape, appearance, weight, and body composition.
6. Monitor sport personnel's expectations of body changes and/or athletes' plans to manage their weight or body composition. Help athletes, parents, coaches, and other training staff critically assess the sustainability of their efforts and the short and long-term impacts of their progress.
7. Advocate for environments and practices that allow for the safe and sustainable pursuit of performance. Collaborate with weight-inclusive dieticians to empower athlete decision-making by providing a wide variety of nutrition options (including foods that may be popularly labelled as "unhealthy") and ample opportunities for rest and recovery. Foster a safe environment that allows for open discussions of mental health and provides accommodations for athletes who may be experiencing body dissatisfaction, DE, and EDs, even if their performance is not noticeably impacted.
8. Develop a collaborative, multidisciplinary, and culturally competent weight-inclusive care team. Ensure athletes feel empowered to discuss performance and body image-related issues with members of their care team and ensure athletes' input in creating their own care plans is encouraged and valued.

The application of these principles can help SPPs avoid perpetuating weight-centric beliefs and practices in their interactions with athletes, parents, coaches, and other training staff. Specifically, SPPs can tailor their interpersonal interactions to prioritise athlete mental health, in our case, by refraining from placing undue emphasis on weight-centric practices and correcting these practices whenever possible. Motivational interviewing, a communication approach used to explore and strengthen clients' intrinsic motivation to change, is one way to facilitate compassionate and collaborative conversations about weight-inclusive approaches (Clifford & Curtis, 2015). For examples of how to apply the above principles and motivational interviewing into applied sport psychology interactions, see Table 2.

Structural level interventions

Encouraging self-improvement and developing coping strategies for individual athletes dealing with the impacts of weight stigma is not enough. SPPs must employ systems-level thinking to safeguard athletes against the culture of weight stigma in sport that all too often leads to health compromising behaviours (Kerr & Stirling, 2019; Papathomas, 2018). Systems-level thinking requires the SPP to critically reflect on their role within the sport organisation and identify other key stakeholders in shaping a weight-inclusive culture (Maher, 2022; Wagstaff & Quartiroli, 2023). In his 4R framework, Maher (2022) identified four factors to consider when identifying these change agents: (a) the *role* of the individual within the organisation, (b) the *requirements* of the individual to contribute to a weight-inclusive culture based on their education and training, (c) the *responsibilities* or actions to support the organisation, and (d) how they communicate and navigate various *relationships* within the systems. These individuals can include but are not limited to head coaches, assistant coaches, athletic directors, dietitians, and sports

Table 2. Applying weight-inclusive principles to sport psychology interactions.

Client statement	Practitioner response
Athlete says: "I have to lose weight to prepare for the season."	"You think weight loss will help you perform well. What are some of the benefits of weight loss? How would you like to attempt this weight loss? What concerns do you have about your weight loss attempts now or in the past? [Practitioner listens reflexively] Thank you for sharing your thoughts with me. If it's ok with you, I'd like to share a little bit about weight loss. Despite the prevalence of weight loss attempts, research has shown that weight is not as controllable as we make it seem. Significant weight loss is difficult to sustain in the long run. Focusing on weight can do a lot more harm than good since it forces you to think about, even obsess over, something you have little control over. What do you think about this? [Practitioner listens reflexively] What if you were able to experience good energy and high performance, but the scale never budged? It's okay for your body to look and feel a little different after the off-season. I wonder if, instead of weight loss, you might like to focus on preparing your body and mind for the increased training load when the season starts. What other ideas do you have about how you can prepare for the upcoming season?"
Athlete says: "I need to add some more gym sessions this week. We had a team holiday dinner this weekend and I'm feeling so fat from how much I ate."	"The team dinner sparked some strong feelings about your body. Can you tell me more about how the dinner affected you? [Practitioner listens reflexively] Thanks for sharing your thoughts and feelings with me. How do you think more time in the gym might benefit your training? I know a lot of people feel similarly that, to be 'healthy' and perform well, we either have to earn our food by being active first or burn off the food we have eaten. Interestingly, research shows that thinking about food as a tool for managing your body size or punishing ourselves for eating can actually be more hurtful to our health and performance than helpful. What do you make of this? [Practitioner listens reflexively] If you'd like, we can continue to explore how the way we think about food and our bodies can impact our quality of life. How does that sound?"
Athlete says: "I've been making great progress this season! I'm down 5 lbs and I've PR'd twice. Cutting out carbs really works!"	"You're really proud of the work you've done. Tell me more about the relationship between your weight and performance. Who or what motivated you to address your weight and diet? [Practitioner listens reflexively] Seeing the fruits of your labour is really rewarding! You really care about your performance and are doing your best to see improvements. If it's ok with you, I'd like to share some information about the relationship between weight and performance. Despite popular belief, thinner isn't always better for our health or our performance. And rigid eating plans are hard to stick with and can be harmful to our health in the long run. What concerns do you have about carb cutting, if any? [Practitioner listens reflexively] If you'd like, we can explore your diet and weight in more detail and think about other ways to continue your progress this season. What do you think?"

(*Continued*)

Table 2. Continued.

Client statement	Practitioner response
Athlete says: "I'm training harder than ever, I'm following a super healthy diet plan, and coach told me my body comp results are almost where they need to be. But I'm so tired all the time and I don't feel like my old self. I keep getting sick and, if I'm being honest, I haven't had my period in three months."	"I appreciate you sharing your concerns with me. You care about your performance and are doing everything in your power to be at your best. Tell me more about how your training and diet have been impacting you. What other concerns do you have about this new approach you are taking? [Practitioner listens reflexively] You're working as hard as you can, but you aren't seeing results. In fact, you are feeling worse! You've really paid attention to your body's signals and know that the way you're treating your body is not quite right. Would you be open to discussing your concerns further and with me and rest of your medical care team? [Practitioner listens reflexively] We can work together to get you to a place where you feel better mentally and physically. I'd really love to hear your thoughts about improvements we can make in your training and care plans. I can also provide some suggestions and can help you work with your coach to address your concerns."
Coach says: "I need you to help me get an athlete to lose weight. He's one of our top performers, but he's been gaining weight all season. I don't think he's taking his training and diet seriously."	"Tell me more about how his weight is negatively impacting his performance. What other concerns do you have about the athlete's performance? What aspects of this athlete's performance are you hoping to improve through weight loss? What specific actions would you like him to take to lose weight? [Practitioner listens reflexively] Thank you for explaining your thought process. You really care about your athlete and want him to reach his full potential. I would like to share some concerns I have about whether weight loss is the best way forward though. Targeting weight loss often involves an increased training load, diet restriction, and higher levels of body dissatisfaction for athletes. Each of these factors can increase injury risk and can also negatively impact an athlete's mental health. What do you think about this? [Practitioner listens reflexively] What strengths do you see in the athlete that makes you believe that they can continue to improve? What are some other ways we can continue to support the athlete, so they reach their full potential?"
Coach says: "I need you to help me get an athlete to lose weight. She was one of our top performers last season and was working really hard to improve. Now she looks like she's in worse shape and her stats have fallen off a cliff. I think she was just lazy during the offseason."	"You're really concerned about your athlete. How would you like to follow up with them to make sure they're okay? [Practitioner listens reflexively] You care about your athlete and want them to be able to perform at their best. Based on your observations, I would like to suggest a mental health check with the athlete. It is unlikely that weight gain is the cause for a drop in her performance so a mental health screening can provide me more insight into what may be impacting your athlete's wellness and performance. For example, as you said, it may merely be because she rested a lot during the offseason and needs to adjust her in-season training load and expectations accordingly. Or it could be a number of other things such as her having trouble adjusting to her increased workload during the season or higher than normal levels of stress off the court. Focusing on weight loss can be somewhat dangerous. Getting a better picture of what's going on will help us determine the best way to support her moving forward."

medicine practitioners. Within youth sport contexts, parents are also essential stakeholders for cultivating weight-inclusive practices.

We suggest that SPPs work institutionally to prevent the harms of weight-centrism by advocating for weight-inclusive policies. One specific initiative SPPs can advocate for within the sport system is reducing surveillance and monitoring such as the reliance on weight and body composition as performance metrics. Recently, Feddersen et al. (2023) argued that the increased normalisation of athlete surveillance through "datafication" (p. 907) poses ethical concerns about athlete safety and privacy rights in sport. SPPs can safeguard their athletes by educating athletes, parents, coaching staff, and athletic programmes on the mental and physical danger posed by placing a large focus on continuous surveillance and monitoring of metrics such as weight and body composition (Feddersen et al., 2023; Schinke et al., 2017, 2021).

Based on collegiate athletes' testimonies about the harms of weigh-ins and body composition testing, athletic programmes have begun to implement policy changes to protect athletes (Goe, 2021; Thames & Abrams, 2022). For example, in the wake of several athletes speaking out against body composition and weight tracking practices

Table 3. Strategies for building a weight-inclusive climate.

Purpose	Strategies	Suggested resources
Primary level: proactively cultivate a weight-inclusive culture	Identify key stakeholders within the sport organisation to collaborate with on weight-inclusive initiatives	Maher (2022) and Wagstaff & Quartiroli (2023)
	Provide continued education for athletes, parents, and coaches about the dangers of weight and body composition reliance and the associated health risks	Hunger et al. (2020) and Varea et al. (2024)
	Ensure programme marketing includes diverse body types and appearances	Zuest et al. (2022)
	Advocate for uniforms that fit well, make athletes feel comfortable, and prioritise function instead of sexuality	Lauer et al. (2018) and Sabiston et al. (2020)
	Advocate for the hiring of a multidisciplinary care team of weight-inclusive health providers	https://asdah.org/listing/ (Association for Size Diversity and Health, n.d.)
Secondary level: identify athletes who are at-risk of experiencing weight-related discrimination and health issues	Provide mental health screenings to assess athlete wellness, potential DE behaviours, and the potential need for further psychological or physiological intervention	Hagmar et al. (2008) and Lundqvist et al. (2023)
	Screen for LEA, assessing both physiological and mental health factors	Melin et al. (2019)
Tertiary level: support athletes who have been adversely impacted by weight-related discrimination and health issues	Enforce anti-abuse and anti-bullying policies as related to weight-shaming, body-shaming, body policing, and other weight-related discrimination	Varea et al. (2024) and Willson & Kerr (2021)
	Prioritise the safety of harmed athletes (e.g., report harm and abuse to the authorities and relevant stakeholders). Serve as an advocate for their needs	Kerr & Stirling (2019)
	Provide treatment based on training and credentials (e.g., eating disorder treatment)	
	Make referrals to (weight-inclusive) health providers	https://asdah.org/listing/ (Association for Size Diversity and Health, n.d.)

on the University of Oregon track and field team, the university revised its protocols for nutrition and body composition assessment (Goe, 2021). These revised protocols state:

> All student-athletes should receive annual education about how this information can support their performance and they should have the option to participate. To protect the student-athlete and the coach, data should not be shared or reported beyond the student-athlete, dietician, and relevant medical personnel. Reporting of individual results to coaches is not permitted. Body image and disordered eating pose serious physical and psychological risks to student-athletes, and our primary goal is to support a healthy mind and body … . At risk individuals should enter an interdisciplinary support model that includes dietetics, athletic medicine, and mental health services … . Any changes in weight and body composition should be initiated and motivated by the student-athlete under the guidance of a dietician. Coaches must be careful never to suggest or require changes in weight or body composition. (Goe, 2021)

The changes made by the University of Oregon offer an important challenge to the norms presented by sport culture that prioritises performance at all costs. SPPs can use these changes as an example of how structural interventions can serve to elevate athlete physical and mental health over athlete performance while also challenging weight-centric practices.

In addition to preventative efforts, SPPs can also work to implement other research-based structural interventions to support those who are at-risk or harmed by weight-centric practices (see Table 3). It is important to note that each sport organisation has its unique social, cultural, political, and cultural milieu which necessitates SPPs to take a different approach in each context (Wagstaff & Quartiroli, 2023). Nonetheless, cultural competence development, provision of holistic care, and safeguarding are all key skills in professional practice and their utilisation is key in the implementation of weight-inclusive sport psychology practice.

Conclusion

Weight-centric beliefs and practices are pervasive in high-performance sport environments (Hagmar et al., 2008; Willson & Kerr, 2021). It is crucial that SPPs in high-performance sport environments acknowledge and engage in education regarding the dangers of these beliefs and practices. Utilising weight-inclusive concepts in their practice will allow SPPs to mitigate some of these dangers, as well as develop a more weight-inclusive environment in their programme (Tylka et al., 2014).

It is important to note that the implementation and acceptance of weight-inclusive practices will most likely be met with challenges at multiple levels. For many athletes and coaches, beliefs about how an athletic body should look and more specific ideas of how that body should be optimised for their sport are deeply entrenched (Papathomas, 2018). In many athletic programmes, head coaches are given ultimate authority over athletes' training and challenging this authority as it relates to weight-centric practices may cause conflict (Kerr & Stirling, 2019). Acceptance of weight-inclusive performance improvement practices may take time and will require effective communication and education. Throughout this process, emphasising the idea that athlete performance should not need to come at the expense of athlete health may be an effective tool in helping coaches and athletes understand the basis of any weight-inclusive interventions.

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No potential conflict of interest was reported by the author(s).

Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study. We have no conflict of interest to disclose.

ORCID

Saemi Lee http://orcid.org/0000-0003-1316-0559
Matthew Bejar http://orcid.org/0000-0003-3398-4045
George Crocker http://orcid.org/0000-0002-7036-4577

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