Journal of Clinical Sport Psychology, (Ahead of Print)
https://doi.org/10.1123/jcsp.2020-0039
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ORIGINAL RESEARCH

Eating Disorders in Male Athletes: Factors Associated With Onset and Maintenance

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Male athletes are underrepresented in eating disorders research. This phenomenological study investigated the experiences of male athletes who self-identified as having an eating disorder, disordered eating, or compulsive exercise behaviors. Eight male collegiate athletes were interviewed, and qualitative analysis identified factors associated with the onset and maintenance of disordered behaviors. Among the novel findings was the salient influence of social media as a driver of body dissatisfaction and disordered behaviors. The participants described a perceived sense of control and feeling of pride associated with the use of behaviors, cultural norms in a male sport environment that sustained these behaviors, and a shared belief that, until they experienced a loss of control over their use of behaviors, they would not likely ask for help or seek treatment. These findings have implications for additional research, as well as individual and systems-level strategies for the prevention, screening, and treatment of eating and exercise disorders in male sport.

***Keywords**:* disordered eating, men, mental health, sport, qualitative

Athletes are at increased risk for developing disordered eating and exercise behaviors. In particular, athletes may be at a heightened risk for body dissatisfaction and eating disorders (EDs) because of sport-related pressures, like performance expectations, peer pressure, weight categories in certain sports, and mandatory weigh-ins (Petrie & Rogers, 2001). Disordered eating has adverse consequences on the athletic performance, well-being, health, and identity of athletes (Busanich, McGannon, & Schinke, 2012; Papathomas & Lavallee, 2006, 2010).

Prevalence estimates of EDs among athletes range from 0% (Petrie, Greenleaf, Reel, & Carter, 2008) to 8% in males (Sundgot-Borgen & Torstveit, 2004) and 6% (Schaal et al., 2011) to 32.8% (Torstveit, Rosenvinge, & Sundgot-Borgen, 2008) in females (Bratland-Sanda & Sundgot-Borgen, 2013). Rates of subclinical disordered eating in females vary between 18.2% (Nichols, Rauh, Lawson, Ji, & Barkai, 2006) and 44.7% (Martinsen, Bratland-Sanda, Eriksson, & Sundgot-Borgen, 2010) and 10.4% (Rosendahl, Bormann, Aschenbrenner, Aschenbrenner, & Strauss, 2009) to

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19.2% in males (Petrie et al., 2008; Petrie, Greenleaf, Reel, & Carter, 2009). There are concerns about the validity of these estimates, particularly for males. Most studies reporting prevalence rates of EDs in male athletes used scales that were not validated, relied on self-report rather than clinical diagnoses, and used homogeneous samples (Petrie & Greenleaf, 2007). In addition, the majority of these studies are more than 10 years old and were conducted before the rise in social media use, a known factor that increases body dissatisfaction and that has been associated with disorders in eating and exercise behaviors in other study populations (Griffiths, Murray, Krug, & McLean, 2018). Contemporary research is needed to better characterize the male athlete ED experience, and qualitative research can offer important insights to guide prevention, detection, and treatment efforts.

The research literature on EDs in sport is small and predominantly features female athletes; male athletes are underrepresented. There is some evidence that supports the assertion that male athletes have unique, gender-specific risk factors for eating and exercise disorders that serve as barriers to treatment (Bramon-Bosch, Troop, & Treasure, 2000; Feldman & Meyer, 2007). More recently, it was reported that EDs in male athletes may be more challenging to identify and treat (DeFeciani, 2016), reinforcing the likelihood of an underreported prevalence. With a paucity of research, the goal of this qualitative study was to characterize how male athletes experience their eating and/or exercise disorder in the context of sport in order to identify the onset and maintenance factors that may be unique to this demographic.

Methods

Participants

For this phenomenological study, eight eligible participants completed telephone interviews. All participants identified as male were current or former collegiate athletes, and reportedly experienced disordered eating and/or compulsive exercise behaviors. The participants ranged in age from 18 to 33 years old (mean age, 25.13 years), and they competed in a variety of sports (Table 1). The average duration of collegiate competition was 3.75 years. One participant reported a diagnosis of anorexia nervosa, one reported bulimia nervosa, and one reported other specified feeding or ED. The remaining five participants self-identified as having current concerns but had not been given a diagnosis of a disorder. Three participants identified as now being in a state of recovery from their ED. Six participants identified as non-Hispanic White, one as European, and one as Asian.

Procedure and Measures

Research protocols were approved by the institutional review board of Springfield College. The participants were recruited through sport and clinical listservs, using snowball sampling. Eligibility was assessed using a telephone screening interview, based on the following criteria: male gender and/or self-identified as being male, current or former varsity collegiate athlete at a 4-year college or university, current or past clinically diagnosed ED in accordance with Diagnostic and Statistical Manual of Mental Disorder, 5th Edition (DSM-5) criteria (as identified by a licensed mental health clinician or medical doctor) or self-reported current or past

Table 1 Participant Demographics

Pseudonym*	Age	Race/ Ethnicity	Sport	Diagnosis	Treatment	Self-reported in recovery	Q-EDD score
TD	23	White	Football	EDNOS	Yes	No	Bulimia nonpurging type
DP	33	White/ European	Track & field and cross country	Anorexia Nervosa	Yes	Yes	Symptomatic other
PD	32	White	Football	Bulimia Nervosa	Yes	Yes	Asymptomatic
MS	30	White	Powerlifting	No diagnosis	Yes	Yes	Asymptomatic
LM	23	White	Soccer	No diagnosis	No	No	Symptomatic binge-dieter subtype
JK	22	White	Rugby and body building	No diagnosis	No	No	Subthreshold bulimia and exercise bulimia
HT	18	Asian	Tennis	No diagnosis	No	No	Symptomatic other
ZC	20	White	Ice hockey	No diagnosis	No	No	Symptomatic other

EDNOS = eating disorder not otherwise specified; Q-EDD = Questionnaire for Eating Disorder Diagnosis.
*Pseudonyms were used to protect participant anonymity.

experiences of disordered eating with or without compulsive exercise behaviors, minimum age of 18 years, fluent English speaker, and willing to consent to an audio-recorded telephone interview.

The participants who chose to participate were emailed a link to an online Qualtrics survey (2018; Qualtrics, Provo, UT) where they gave informed consent, provided demographic information, and completed the Questionnaire for ED Diagnosis (Mintz, O'Halloran, Mulholland, & Schneider, 1997). The Questionnaire for ED Diagnosis was scored, and descriptors of ED status (Table 1) were determined using the scoring rubric developed by Mintz et al. (1997). Interviews were conducted by telephone using a semistructured interview guide and averaged 45 min in which the interviews were audio-recorded and transcribed verbatim. Thematic coding was used to identify relevant themes. Six research questions guided the interview: (a) What is your experience with disordered eating and/or compulsive exercise? (b) What purpose do these eating and exercise behaviors serve for you? (c) What factors contribute to the reinforcement of these eating or exercise behaviors? (d) How do people and/or factors in the sport environment influence these eating or exercise behaviors? (e) How does the perception that EDs are "a women's issue" impact your experience? and (f) What is your experience in seeking help for your eating and/or exercise concerns?

Data Analysis

Once saturation was reached, responses to the six research questions were analyzed to determine common themes across participants. The data was composed of interviews, field notes, a data log, and a self-reflective research journal. Following an in-depth review of the transcripts, the first author (Julie Freedman) identified key themes, quotes, and keywords. An effort was made to utilize the specific wording used by participants from the transcripts in determining a label for each code. Once an initial set of codes was developed, the data were reviewed again to see how well the codes fit across the individual transcripts. Once preliminary codes were identified, the codes were reduced into themes and subcategories across the transcripts to verify consistency. After manual coding, the senior author (Sally Hage) provided an external review of the coding scheme to reduce the risk of bias and increase the trustworthiness of the findings. The participants were emailed a brief written summary of the findings and a $10 Amazon gift card.

Results

Thirteen major themes emerged from the analysis, and these themes are depicted in Figure 1. Each research question and its emergent themes are described below, with illustrative quotes.

The Male Athlete ED Experience

Several themes provide insight into the experience of male athletes with eating and exercise disorders. Specifically, themes related to the sport environment, societal norms and gender stereotypes, and comparisons on social media emerged as key

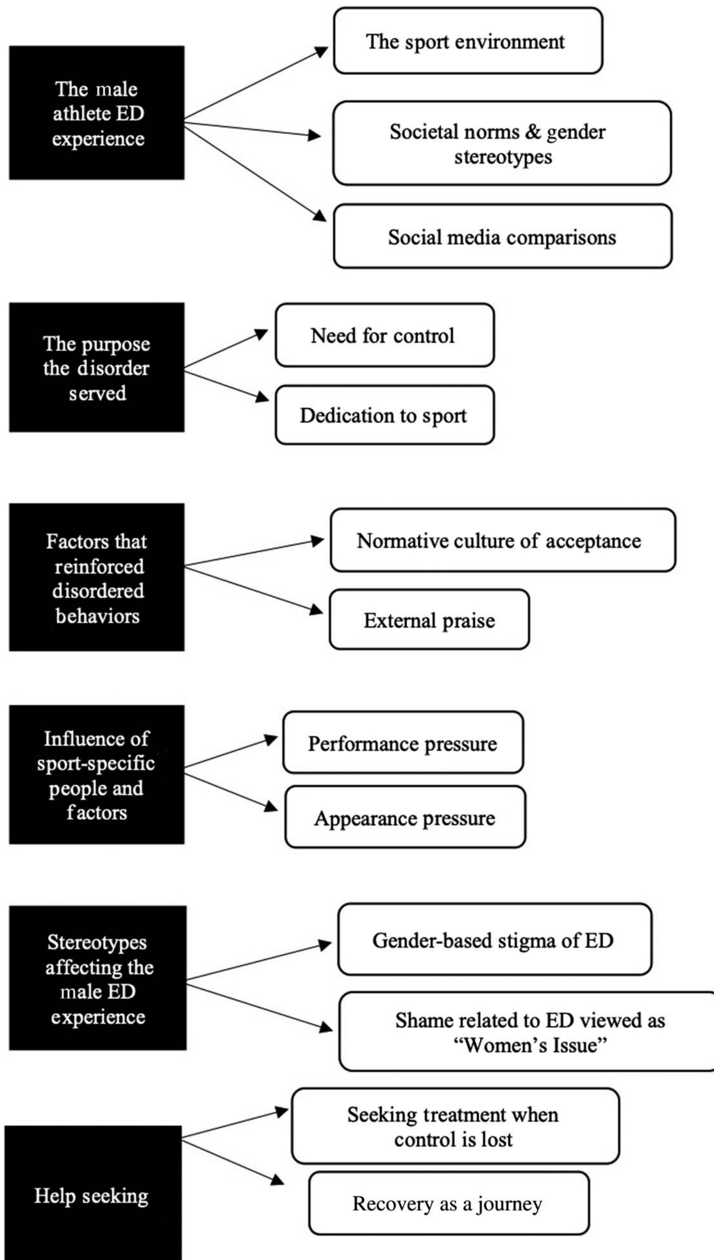

Figure 1 — Thirteen emergent themes characterizing the male athletes' experience of eating and exercise disorders. ED = eating disorder.

factors playing a role in how male athletes experienced their eating and exercise concerns.

The sport environment. A universal theme depicted how the sport environment contributed to the onset and maintenance of disordered eating and/or compulsive exercise behaviors. Explicitly, messages related to the pressure to perform in competitive collegiate sports from coaches, athletic support staff, teammates, and the participants themselves often led individuals to believe they had to resort to extreme behaviors to be the most competitive. Some of these extreme behaviors included exercising after practice in an effort to improve performance, regimented eating to control body shape and size, and skipping meals altogether. All participants spoke about the desire and perceived need to control their behaviors in order to survive in the competitive sport environment. This control was often driven by pressure from coaches to workout according to expectations or to eat specific foods. Several spoke about developing a precise routine to manage the demands of the sport environment. Routines oftentimes turned into “a vicious cycle” that supported the disordered eating and compulsive exercise behaviors.

> You’re in a locker room in college of you know, about 105 guys that you’re consistently competing and comparing yourself against and you start to try to find that competitive edge. And if all of a sudden that means, okay, great, eliminating sugar will somehow make me better than the guy next to me. You’re pretty much desperate to do anything to get playing time. (PD)

In addition, many participants spoke about how body image concerns played a large role in believing they needed to change their bodies. Comments from coaches, friends, and teammates about their body size, or a general dissatisfaction with their own body was described. Body image issues were often tied to projections from society of the ideal body males should have. And while society broadcasts that men should look muscular and lean, other issues that are less talked about emerged as salient influencers, including how media images are photoshopped or include male athletes who use performance-enhancing drugs to help them achieve an idealized physique. The participants closely related these images to the use of disordered or compulsive behaviors.

Societal norms and gender stereotypes. The participants suffered in silence with their eating and exercise concerns, believing that males are not affected by these problems, finding that males do not talk to other males about mental health concerns, or experiencing disbelief from others if they did share their struggles. Feeling alone, many participants thought that they were “getting away with” their disordered behaviors because no one disapproved of their actions as long as the results were justified visibly in terms of body sculpting or through improved sports performance. Several participants reported that they did not know that what they were experiencing was a disorder, nor did they know that their eating or exercise behaviors were problematic because these behaviors were so common in their sports.

> I try to hide it from people. I don’t want anybody to know that I’m struggling, my friends and family. So just keeping it from people, uh, gives me a little bit

> of anxiety. Um, I don't, I don't feel like I have anybody I can really talk about it a lot with ... I don't feel like they would understand. I don't want to cause them any stress based on mine because I know that they have their own stuff they're dealing with. (TD)

Social media comparisons. Most participants spoke about how looking at other people on social media often made them feel worse about themselves. Specifically, seeing others who were more in shape or muscular than they were fostered the idea that they were not good enough or were not working hard enough. A few participants also spoke about how social media led to constant comparisons with others and sometimes led participants to compete with those on the internet to be stronger, fitter, or more extreme in their discipline or self-control.

> When I finally realized that I had an eating disorder and obsession with the gym and all this kind of stuff, I had, sounds goofy, but I literally had to go and delete 95% of my social media friends just because of ... that's the normal message. All of a sudden you get on there and it's #Gym ... like some bro mentality thing ... it creates such an unhealthy, um, kind of balance to life that it's always about pushing the extremes .... It's the silent killer. Like I absolutely despise social media ... if all of a sudden you get on and you're like, oh, okay, like, um, I'm feeling good today and somebody posted a photo of like the cliché, you know, at the gym doing whatever, then all of a sudden you feel a pressure and a lack of self-worth that all of a sudden it's like you're in your car driving to the gym being like, *oh Jimmy just went and did this, now I need to.* And it really is a driver on top of every other thing out there. (PD)

The Purpose the Disorder Served

The themes that emerged as prominent in describing the purpose that the disordered eating and/or exercise behavior served included a need for control and a dedication to sport.

Need for control. Seeking control was a universal theme for our participants, who noted that using disordered eating or compulsive exercise behaviors helped them feel more in control. Many factors were identified as outside of an athlete's control, like genetics, the coach's opinion of them, playing time, and the capabilities of their opponents; yet, by using eating and exercising behaviors that they now can identify as disordered, the athletes talked about being able to take back some control. One athlete noted that he felt he had to justify his worth on his team through his physique. Another mentioned feeling like he did not belong unless he had a fit body.

> Obviously when you compete at that kind of level, there are a lot of guys that are running really fast and really, really well. And in a way it was almost like, if I can control the things that I can control, then I can improve in the ways that, you know, are within my control. Obviously things like my genetics and that kind of thing, I just wouldn't be able to control. But it was about me taking control of everything that I could take control of and weight was obviously one of those things. And when you first engage in these kinds of activities, you've

> got the mindset that lighter equals faster and you know, if I can shave another pound or another half-pound off my weight, then I'm going to run faster. So it was just a case of trying to be so in control of everything. I thought if I could control my weight, keep it as low as possible, then I could run faster than someone who didn't. (DP)

Dedication to sport. Most athletes spoke about their internal desire to be the best athlete they could be. In attempting to achieve this goal, they often resorted to manipulating their food intake, increasing exercise sessions, and sometimes skipping meals to compensate for calories consumed earlier in the day. Three participants specifically stated that they considered themselves more dedicated to their sport because of their ED because it showed that they were willing to do whatever it took to be the best they could be. One participant commented that having an ED was "a necessary evil" for a competitive athlete.

> And in a way, I remember thinking sometimes . . . that I would declare myself as having an eating disorder almost made me proud, as if . . . I was, like, declaring to my other teammates that I was in some way more committed to what I was doing . . . than they were because I was willing to go through an eating disorder to, to achieve my dreams . . . it was almost a like a badge of honor. (DP)

Factors that Reinforced Disordered Behaviors

The normative culture of acceptance in sport and external praise were recognized as prominent factors that reinforced the disordered behaviors of male athletes. The participants commonly identified feeling like a failure, close interactions with other athletes who role-modeled similar behaviors, and the commitment to an ongoing training routine of extreme behaviors as reinforcers in the sport environment that normalized maladaptive eating and exercise behaviors and sustained their disorder. External praise of the extreme behaviors and their visible results came from both peers and coaches, as did positive responses on social media. This feedback affirmed that the disordered behaviors were yielding desirable results and encouraged the participants to continue using them.

Normative culture of acceptance. Factors that contributed to the maintenance of disordered behaviors included the tight integration of behaviors into training routines and the athlete's identity, being surrounded by others who used similar behaviors, and feeling like a failure if they "slacked off." These factors further perpetuated the normative culture in male sports of accepting extreme behaviors as long as the performance expectations were being met. Training routines built on disordered behaviors in pursuit of performance goals were not questioned or of concern inside the sport environment or outside of sport by family or friends.

> My life became all about eat, sleep coach, train . . . I surrounded myself with people who were like-minded in that respect. So every single day I just had the same routine . . . counting my macronutrients and weighing my food and following a specific plan and working out a lot, every single day; and my whole entire schedule revolved around class and training and coaching. And

> everyone just praised it because everyone saw that I was improving with my performance and also had a particular type of body, and they saw I was dedicated and knowledgeable. So it very much became my identity . . . . Everything revolved around that. And I was becoming known at the gym for my strength and muscular development and just everything; it was my whole entire identity. (MS)

External praise. Social media reinforced the use of disordered eating or compulsive exercise behaviors by male athletes. Seeing other male athletes with muscular bodies and seeing others' food choices or diet plans on social media provided a constant source of comparison that drove disordered behaviors among those in this study. Receiving positive comments from others, in person or through social media, encouraged the athletes to continue what they were doing, as it validated that their efforts were "paying off." Low self-confidence was also noted by a few participants as compelling them to continue using behaviors to strive to improve their performance or appearance. Some reported feeling better and more confident the more they worked out, which further reinforced compulsive exercise behaviors. Many noted that comments from peers provided reassurance that their results were noticeable, which reinforced the belief that using disordered behaviors was worth the effort. Comments from coaches about body size or poor performance triggered the continued use of behaviors to prove one's dedication to sport.

> Just knowing what I should be eating, like knowing what I want to eat and . . . what other people are [eating], I would say that plays a role . . . [influencing what I should and should not be doing]. (ZC)

Influence of Sport-Specific People and Factors

Performance and appearance pressure were additional factors in the sport environment, which influenced both the onset and maintenance of disordered eating or compulsive exercise. In these narratives, coaches, teammates, opponents, and professional athletes in the media and on social media were mentioned as individuals who factored into the male athletes' experience of pressure. Internal, self-driven pressures related to appearance were also acknowledged.

Performance pressure. All participants spoke about how the normative culture in male sport embraces and rewards extremes. The participants described a perceived necessity to use whatever means possible to reach a performance goal, even if the means could be considered detrimental to one's health and well-being. A few participants identified the performance pressure they put on themselves to be the best athlete they could be, pushing themselves to adopt certain behaviors. An additional source of performance pressure came from the participants' feeling that they needed to be better than their teammates to earn their coach's attention or a starting position; this pressure oftentimes led to the use of extreme behaviors to prove their dedication. Performance pressures drove athletes to manipulate their diet and/or training to pursue a competitive edge and to increase their chances of playing, starting, or excelling.

> "Okay, you're doing this diet? Well I'm going to do **this** one!;" or, "You're intermittent fasting for 15 hours? I'll do it for **16**!" And it's not a matter of,

> like, good versus bad. It's like, "Okay, your extreme will now be my motivation to be more extreme." And I'm trying to find that competitive edge. As an athlete, it's not a matter of like, oh, we can all just kind of take a step back and find more balance. It's more the opposite. And so that really . . . I just think there's such a lack of awareness into that mental health that it's really just more of a reality of, *okay, you want to be a professional athlete, like, this is what it takes*. And it's, it's really tough to try to look past that or even acknowledge it. (PD)

Appearance pressure. Appearance pressure was identified as a normative experience by all athletes in our sample who described the expectation to look a certain way for their sport. Comments by coaches to change their body or change their eating and/or exercise behaviors to modify weight were noted by half of the participants as being a source of appearance pressure. The participants reportedly looked at professional athletes as the model for how college athletes should look and perform. The strong influence of the societal promotion of how athletes should look and what diets and exercise regimes they should utilize was articulated by the participants, prompting them to do what they could to try and attain this ideal no matter how unrealistic it might be.

> For like, a male tennis player, there's like so many people that like, they're like the shit and they are able to move around on the court easily. And then like with me, like there are times like, I feel like them and then times I feel like I do not belong . . . . I am trying to maintain . . . . that fit, fit, like, body. (HT)

Stereotypes Affecting the Male ED Experience

A well-established perception exists that EDs are "a women's issue," and this stereotype affects the ED experience of males. In our study, male athletes described that they did not even know that males could experience EDs, and as a result, they felt shameful about their use of disordered eating behaviors. The participants reported that they felt alone in their suffering and they had no one to talk to about what they were going through.

Gender-based stigma of EDs. Half of our participants reported that they were conditioned to believe that EDs only affected women. A few explicitly commented on how rare they thought it was to be a male with an ED. One participant noted that he considered it shameful that he was struggling with disordered eating behaviors because it was "a women's issue." Two participants described the belief that men were "immune from a women's problem," such as an ED because they were "mentally tougher." One participant reported questioning if his behavior and regimented diet were problematic or not because he believed that only women struggled with eating issues. A few articulated the belief that, if males did have EDs, their experience was different from females.

> I would hope it's a little bit different these days, but the coaches were almost in denial about it as well because by the time I started to see my counselor and we were talking through everything . . . she would then engage my coaches and they would almost be like, "This isn't possible. This is a woman's problem.

> Like, I don't know how to deal with this with a guy." But also, because of the way that they [the coaches] came to me in the first place to tell me that I had gained weight ... is not at all the way they would approach the women. So there is a thought of stigma or a general belief that it's a women's only problem and men are immune to it and men are much mentally tougher, much stronger. They'll just, you know, "You can call them fat and it'll just bounce off them and they'll just carry on with it," and it's not, it's not necessarily true. That was difficult. (DP)

Shame related to an ED being viewed as "a women's issue". Because of the widespread perception that EDs affect only women, the participants felt shame, the need to hide their condition, and an inability to talk about their experiences. The participants noted that, when they did speak up, their coaches, family, or teammates expressed disbelief or could not comprehend what they were dealing with.

> There was actually an added element of shame in that I was skinny and the, you know, the things that I had to deal with in terms of "skinny-shaming," particularly being a man, you know, because there's the male body image ideal, you know, all these superhero movies that have got people with big biceps, big chests, that kind of thing, that everyone has to be muscular and big and masculine. And I had this desire to be skinny, which is a complete contradiction of that. But it didn't matter to me. I almost would rather be, you know, ugly and skinny and unattractive if it meant that I could run faster .... So the whole body image around being a male with anorexia is basically the complete contradiction of what everyone in society tells you should look like anyway. So not only is it shameful for a man to have a woman's disorder, but it's also shameful to desire a body type that is the complete opposite of what society tells you that you should be as well. (DP)

Among the participants with an ED diagnosis or who went into treatment, there was an awareness of the stereotype of EDs being "a women's issue." This societal misperception created an added barrier to the participants' ability to recognize their behaviors as problematic, added shame to their experience, and contributed to suffering in silence.

> I think my biggest frustration came from the standpoint that I didn't know males could get eating disorders. (PD)

Help Seeking

Half of the participants did not consider their behaviors problematic enough to need professional support or treatment, although, these same individuals identified the signs that they believed would indicate the need for help. The participants believed that experiencing a loss of control over their diet, exercise, or eating behaviors, in general, would be an indication that outside support was needed. The four participants who had sought professional help spoke about their process of seeking treatment; three described the long process of recovery and the obstacles that stood in the way of realizing there was a problem. While all participants

reported that taking control was a central reason why they began using disordered eating and/or compulsive exercise behaviors, the tipping point that prompted four athletes to get help was when they recognized that they were no longer controlling their behaviors, but instead, their behaviors were controlling them. The participants who got treatment also reported that they decided to seek help when the negative side effects of their disordered behaviors outweighed the perceived benefits.

Three participants talked about the importance of their recovery process, which was identified as essential to address "why" they began to use disordered behaviors. These participants also noted that, while their recovery journey took years, integrating aspects of their sport identity into treatment was essential to their improvement. They noted that it would have been useful to also focus on their male identity in treatment. One participant reported his experience of treatment and resources as being tailored to females, further perpetuating stigma.

Seeking treatment when control is lost. Of those who sought treatment, all spoke about feeling that they had lost control of their behaviors, which led them to recognize that they needed help. One participant reported a serious incident while out on a long run when he passed out on the side of the road; this experience served as a wake-up call that he no longer had control over his behavior and that his health was at risk. Three participants reported that, after a few years of having an ED, they began to acknowledge that side effects like low testosterone, anxiety, depression, shame, and fatigue were not worth the perceived gains. All participants noted that it was challenging for them to even recognize the negative side effects of the ED. Those who were not seeking treatment reported that they did not feel their condition was serious enough, and they were seemingly unaware of the risks they were imposing on their physical and mental health. Because of this minimization, seeking treatment was often delayed and, when sought, was seen as a last resort to try to return themselves to a healthy state.

> I had no [sexual] interest. And to me, that was just such a serious wake-up call that I was like, I mean, when I told you that they were concerned that something was really wrong, like there's low testosterone and then there's like, clinically low. . . . So I was basically a castrated old man and I was at the age of like, 25, so like, realizing that a whole entire part of my body was not working and was like, dead, like terrified me. And I was like, "This isn't worth it. Like, this is so dumb." Like, I look a certain way, but the cost has been, I'm hungry, I'm tired, my training is lackluster because I'm tired and feeling weak and I can't enjoy the food that I want in order to maintain this condition. And my sleep's falling to pieces. And on top of all that, nothing sexually works. So that was the major motivator when I was like, "Screw this, I'm giving up all of this. This is so dumb. Like, this is just not worth it." And the, the drive to regain my sleep schedule and sexual function were the main drivers because no sexual desire and insomnia were just horrendous, and I just couldn't take it anymore. (MS)

Of note, the other four participants in our study who had not sought treatment noted that they would only do so if they believed that they had lost control over their eating and exercise behaviors. This finding illustrates the idea that males need to feel "sick enough" to justify getting help. A few participants specifically noted that

they did not think they had a problem because no one seemed concerned with their extreme dieting or exercise behaviors as long as they were performing well, which led them to believe their behaviors were not problematic.

> That [blackout] was the point that I realized that I wasn't in control, and realizing you're not in control is a scary thing. And that was the point where I knew I needed someone to help me because I figured that someone's going to have to help me, help me do this. And even then, it wasn't a case of, "someone's going to have to help me recover." It was, it was more a case of, "Someone's going to have to help me lose the weight that I want to safely." So I still was a little bit in denial of what I was actually going through. I just needed help doing what I wanted to do because I couldn't do it on my own anymore. (DP)

Recovery as a journey. Three participants self-identified as currently being in a period of recovery. Two had been in treatment with ED professionals, and one worked with a therapist who was not an ED specialist. All spoke about how essential it was for them to address in treatment the "why," or the reasons behind their use of disordered eating and/or compulsive exercise behaviors. Addressing the sport-specific factors related to their maladaptive behaviors and receiving education about nutrition for athletes were cited as important pieces of recovery.

> So once I found out that the mental health condition that I was living with was a diagnosable one, it was extremely relieving because instead of like me being bat-shit crazy, it was more of a, something that was diagnosable. But then it also came with a sort of frustration because I've lived with it for so long that, um, it kind of just put me into a state of shock of realizing that there, that I had no idea it was even possible. (PD)

A few participants spoke about how their recovery was not a linear process and that they experienced many ups and downs in treatment, which lasted for several years. One participant described relief upon getting a diagnosis; being able to recognize what he was experiencing allowed him to get help and eventually to reach a period of recovery. When asked if their male identity was a focus in treatment, these three participants noted the absence of any focus on the male identity, and two felt that incorporating the male identity into individual treatment might have made understanding their disorder easier. In addition, one participant commented that treating an athlete who is still actively participating in their sport might jeopardize the athlete's commitment to treatment compared with treatment accompanied by a break from competitive sport.

Discussion of Findings

Several novel findings emerged from this study, among the 13 major themes related to the sport environment, social norms, and gender stereotypes that characterize the onset and maintenance of EDs in male athletes. The sport environment was a universal contributing factor to the onset and maintenance of disordered eating behaviors in this study; specifically, the immense pressure to both look and perform according to expectations was identified as a contributing

factor. Behaviors were motivated by attempts to take control of an environment where athletes perceived they had little control. In addition, a perceived loss of control over personal behaviors was the catalyst for those participants who sought treatment, while the mounting fear of losing control was considered an indication to others of when they might seek outside help.

The drive to gain a competitive edge and the realities of performance pressures were identified previously as risk factors for EDs in sport (DeFeciani, 2016); but the description that male athletes perceive themselves as more dedicated and feel proud because of their commitment to using disordered behaviors, like restricting food intake, is a novel finding. In our sample, social media was a salient perpetuating factor in idealizing the male athlete body, which contributed to the intensification of participants' extreme eating and compulsive exercise behaviors. In addition, the shared belief that a loss of control over the use of highly disciplined eating and exercise behaviors would be essential for male athletes to experience before asking for help or seeking treatment is a new finding that clearly articulates a barrier to early detection and timely intervention. This finding suggests that most male athletes in this study who engage in disordered eating or exercise behaviors do not consider themselves sick enough to warrant intervention. While the concept of not being sick enough for treatment has been reported in both females and males with EDs (Gaudiani, 2018), this finding, until now, has not extended to male athletes. Finally, among the participants who received treatment, the factors that were described as essential to the recovery journey included figuring out the purpose the ED served, processing the "why," and establishing healthier behaviors with professional help. Both the help-seeking and recovery experiences of male athletes in this study offer novel insights, given the absence of existing literature detailing evidence-based best practices for screening, identifying, and treating male athletes with EDs.

Our findings demonstrate that the widespread misperception that only women get EDs contributes to male athletes suffering in silence and failing to recognize that their eating and exercise behaviors are of concern. Worsening this reality is the external praise and the normative culture of acceptance for extreme control over eating and exercise behaviors inside the male sport environment that perpetuate the use of disordered eating and exercise behaviors. These findings provide strong support for widespread education and interventions to change the culture of unenlightenment and apathy about EDs in sport.

A universal theme in this study was male athletes' reports of searching for a sense of control in a pressure-filled sport environment that facilitated and sustained disordered eating and exercise behaviors. This theme of seeking control is consistent with findings from Bratland-Sanda et al. (2010), who noted in a sample of females with EDs that exercising to control negative mood states, like anxiety and sadness, was a primary motivation for compulsive exercise. To our knowledge, the theme of taking control represents a new finding among the few studies investigating the experience of male athletes with eating or exercise concerns.

While all athletes in our sample identified the pressures and competitiveness of the sport environment as drivers of disordered eating and compulsive exercise behaviors, the gains were short term and minimal, and no participants described continuing or long-term performance gains attributed to their extreme behaviors. The participants spoke about the many negative side effects they experienced, such as loss of sexual function, anxiety, depression, and a decline in athletic

performance. While the participants in recovery may be too far removed from their disorder, biased by treatment effects, and no longer reaping any perceived benefits, it is interesting to note that even those who continued to use extreme behaviors were unable to attribute any positive benefits of the ED as part of their experience.

Most participants spoke openly about gender-based stigma related to how society characterizes EDs as a women's issue. This stigma contributed to a failure to recognize the validity of the health concern, isolation without access to support, and a common experience of not having one's pain and suffering understood. These observations were reported by others (Busanich, McGannon, & Schinke, 2014; Cafri et al., 2005).

The existence of the societal norms and gender stereotypes that define the ideal male body image was a universal theme. This finding is not surprising, as the culture of male sport projects how bodies of champions should look and related advertising showcases specific foods, diets, supplements, and workouts that men should embrace to achieve a stereotypical image (Knapik et al., 2016). Most participants compared themselves to the ideal muscular body image and pursued it, believing it was required to reach their performance potential. Added to this profile is the societal norm that males should be tough, both emotionally and physically. This combination of influences may keep many men, perhaps male athletes to a greater extent than nonathletes, from acknowledging pain, weakness, and illness, especially mental illnesses like EDs when they are stereotyped as a women's problem (Petrie et al., 2008).

The athlete culture is further fueled by social media, and the volatile combination can influence males to take extreme measures to prove their dedication and worth. The participants compared themselves to others on social media, and they were triggered by those who were more muscular or lean. Media-driven comparisons spurred the participants to double down on their high commitment eating and exercise behaviors. Those in recovery actively deleted their social media profiles or created new accounts to cautiously select who they followed. To our knowledge, these are novel findings that have not yet been reported in the literature on male athletes with EDs. The toxic influence of social media is notably more prominent in our male athlete data compared with earlier studies involving female athletes (Arthur-Cameselle & Quatromoni, 2014). More research is needed to understand if this finding represents a gender-based difference in risk factor salience or simply the recent increased importance of social media influencers.

Like the reinforcing influence of social media comparisons, external praise from important people in the athletes' personal support network served to reinforce dysfunctional eating and exercise behaviors. Positive comments served as a reminder that the behaviors the athlete was using were being noticed and possibly paying off. Negative comments similarly bolstered the athletes' commitment, causing the participants to believe that they needed to work harder and to go to extremes. These observations support prior research (Arthur-Cameselle, & Quatromoni, 2014; Arthur-Cameselle, Sossin, & Quatromoni, 2017) showing that athletes may be at greater risk than nonathletes for body dissatisfaction and EDs due to peer pressure, performance and appearance expectations, and weight-monitoring protocols applied in certain sports.

It is important to note that, when asked about their experience with an ED, the participants in this study did not, for the most part, articulate an emotional reaction

to their experience, other than shame. This finding might stem from a pressure-filled culture that exists in the competitive sport environment. Previous research has reported that males experience more depression than females with EDs (Bramon-Bosch et al., 2000), but depression was not a salient theme articulated by our study participants. Many of the factors and themes identified in this study were external in nature (i.e., comments from others, appearance pressures, social media, etc.); very few participants mentioned internal factors or triggers. While the absence of internal factors might be linked to the societal belief that males should not share their feelings, it is a notable finding that deserves further investigation.

Our findings support previous research by Busanich et al. (2014), who found that males felt more shame and anxiety about their ED than females because females understood their disorder as a more normalized experience. Importantly, the shame and anxiety males feel about their ED might be related to differences in social networks, with males typically having fewer, if any, confidantes and trusted friendships compared with females (Busanich et al., 2014). Feeling shame related to suffering from a stigmatized female disorder was mentioned by four participants, all of whom had been in treatment. Each noted that their shame caused them to stay silent and minimize their concern for their symptoms when no one else seemed concerned.

Of note, this study suggests that males and individuals involved in male sport may tolerate or even endorse the disordered behaviors as more normative in the competitive sport culture. Male athletes were praised for their achievements, and their extreme behaviors were considered disciplined, not disordered, when used in pursuit of performance goals. This finding contrasts with what was reported about the female experience (Arthur-Cameselle & Quatromoni, 2014), because even though female athletes often receive the similar message, "Do whatever it takes to be the best," the crossover into ED territory is sometimes more visible and garners more attention in some, but not all, female athletes.

While EDs in sport are underrecognized and undertreated in general, ED cases in female athletes are more likely to be identified and to receive intervention than male cases because of stereotypes, stigma, and other barriers to treatment for men (Fewell, Nickols, Tierney, & Levinson, 2018; Quatromoni, 2017). In our study, it was up to the male athlete himself to recognize he had a problem and to be ready and able to do something about it. Readiness was tied to a loss of control over personal behaviors and the common self-perception of being sick enough to warrant intervention (Gaudiani, 2018). Prior research indicates that concealing disordered eating patterns often feels like the only option for male athletes; this concealment, in turn, translates into fewer men seeking treatment (Hackler, Vogel, & Wade, 2010), as was seen in our study.

Strengths and Limitations

A strength of this study is our use of semistructured interviews that allowed the participants to communicate their experiences fully, offering specific and unique details. Our study sample had a diversity of ED diagnoses, with half of the participants having disordered eating symptoms, half having clinically diagnosed EDs, and three participants reportedly experiencing a period of recovery. To our

knowledge, this is the first qualitative study to involve male athletes with EDs. This study is limited by its relatively homogeneous and small sample size, with only one non-White participant. The potential contributing factors to the small sample are the low level of awareness among males to recognize their disordered behavior as problematic and the reality that male social norms often minimize sharing personal experiences or mental health concerns. Given the small sample, additional research is warranted, as the generalizability of our results is limited. Nonetheless, the aim of a phenomenological study is not generalizability, but rather to characterize individual experiences of the same phenomenon through saturation of the data, which we believe we achieved. The self-reported nature of the eating and/or exercise symptoms among those without a clinical diagnosis and the self-reported period of recovery that cannot be confirmed serve as additional limitations. Treatment quality and outcomes were not evaluated, providing avenues for future research.

Clinical Implications

Prevention

Research indicates that male athletes, like female athletes, are vulnerable to developing eating and exercise disorders. Education on sports nutrition, social media literacy, mental health, and proper training is needed in the male sport environment as a core prevention strategy. This research identifies opportunities to address gender stereotypes, mental health stigma, and aspects of the sport and social media culture that serve as barriers to athlete wellness and peak performance. Establishing policies and enhanced staffing of nutrition and mental health professionals to perform routine screening of behavioral, physical, and mental health risk factors will support ED prevention efforts.

A specific policy that could be adopted in athletic departments and in professional sport is mandatory screenings of athletes for ED symptomology. Before this policy can be implemented to help effectively address the issue, infrastructure has to be put in place to support screening. First, a male athlete screening tool needs to be developed and validated. Currently, a screening tool relevant to the male athlete does not exist. Second, sports medicine staff need to be trained in identifying male athletes with ED, and protocols for when and how often screening occurs need to be defined. Third, sport psychology and sport nutrition professionals need to be hired and/or strong referral networks must be put in place so that athletes who are identified as at-risk or with a clinically diagnosable disorder can receive the comprehensive treatment they need from qualified professionals trained to address EDs in sport. One related consideration is the importance of attuning to any potential conflict of interest when deciding whether the infrastructure or the role of a staff psychologist or nutritionist inside athletics is well suited to ED treatment work or whether the athlete may be best served by a referral to an outside specialist embedded within a larger multidisciplinary treatment team. Finally, coaches and athletes need ongoing education about athlete vulnerabilities to disordered eating and exercise in the sport environment, the warning signs, and the action plan to seek help. A close examination of culture within sport, and in certain sports in particular, is needed for a genuine commitment to eradicating

some of the environmental factors that contribute to ED risk. This education is essential to open up communication; address stereotypes; correct misinformation; confront systemic, environmental factors; and break down the stigma associated with EDs and help-seeking.

Ongoing education is also essential to bring EDs out of the shadows and into the realm of other sports-related health concerns so that coaches, athletes, and athletic trainers can begin to identify, show concern about, and develop an action plan to address EDs. Just like concussions and ligament tears, EDs in sport are injuries; they have been labeled "metabolic injuries." As such, they require vigilance in our attention to them. Until we normalize their occurrence and address EDs openly and without judgment, like every other sports injury, athletes who experience an ED will continue to suffer alone and in silence. Without infrastructure, education, and a culture shift, screening will be limited in its impact, and EDs in sport will likely remain shrouded in stigma.

The information from this study is a starting point by giving a voice to the male athlete experience of their eating and exercise concerns. Our findings help to inform practitioners about what concerns to explore when working with male athletes, like awareness of the stigma of EDs, feelings of shame, feeling a lack of control in the sport environment, and overall body dissatisfaction. In addition, widespread education and training and access to psychology and nutrition professionals inside sport will facilitate awareness and the identification of athletes earlier on in the course of a disorder before disordered eating or exercise reaches the severity of a clinical diagnosis. A coach, athlete, or teammate who has been trained to recognize warning signs will notice disordered behaviors and may pick up on disordered thoughts that may be articulated in everyday interactions. Similarly, having an open door for a mental health or nutrition professional to walk through increases access to education, early detection, and intervention. Male athletes in our study reported the lack of access to nutrition professionals to help them understand that their fueling needs in the context of their training load was an impediment to peak performance, further increasing their desperation to control their diet and body size.

With access to a clinical sport psychologist inside the athletics department, athletes have the opportunity to work not only on the performance mindset but also on a growth mindset. Working on their growth mindset builds autonomy and resiliency, as in the case of injury, or low self-worth when the athlete's identity is threatened by a lack of playing time or poor performance, or related to body dissatisfaction. Each of these themes was embedded in the control-seeking behaviors of male athletes in our study. Sport psychologists are uniquely qualified to help athletes build effective communication strategies to process and to respond to feedback from coaches, teammates, and others that often gets conflated with their self-worth and their perceived value to the team. In the absence of these key interpersonal life skills, these experiences became drivers of disordered behavior among the male athletes in our study.

Finally, social media was endorsed by most of our participants as a source of comparison that further reinforced their use of disordered eating and compulsive exercise behaviors. Today, almost all individuals use social media in some form, making everyone potentially vulnerable to its toxic comparisons and misinformation. It is unlikely that people will delete all of their social media accounts, but what

if we harnessed social media to promote health and well-being? This is another place where sport psychology and nutrition professionals working inside sport can have a positive impact, by creating accessible content that is accurate, reliable, and appropriately targeted for the age, level, and gender of the athlete. Should high school athletes be aspiring to what professional athletes do and look like simply because professionals are all over social media? The few NCAA athletics departments that have full-time sports nutritionists and mental health counselors are prime examples of the hard work being done to pump positive nutrition and positive psychology content into social media. We need more of this kind of effort to use the tools of social media for health promotion.

Detection

As noted above, screening and early detection require infrastructure, staff, education, policies, and protocols. Early detection of ED symptomology has been linked to better treatment outcomes (Fewell et al., 2018). Access to sport psychologists can perhaps shorten the duration of an untreated disorder by normalizing help-seeking behavior and by helping athletes recognize that they are “sick enough” to warrant treatment services. In our study, most athletes disclosed that they would not seek help unless they experienced a significant loss of control over their behaviors. Psychoeducation around these themes is essential for coaches, athletes, and sports medicine staff in order to connect male athletes to the support services they need in a timely manner.

Treatment

Barriers to help-seeking and ED treatment among male athletes include shame, stigma, and limited social support networks that keep affected individuals feeling isolated and alone. Not feeling sick enough to justify treatment and a low understanding of what level of distress warrants professional help are common barriers for male athletes that sustain the disordered behaviors. Where prior research has called for athlete-specific ED treatment programs, this research also points to the need for interventions and services uniquely tailored to the male athlete experience, with increased attention paid to the unique aspects of the male identity.

Future Research

Lack of research on this at-risk population perpetuates myths and faulty beliefs that serve as barriers to identification and treatment for this life-threatening condition. Additional research is needed to better quantify the burden of EDs, compulsive exercise, and disordered eating behaviors in athletes. This research must be inclusive of all genders. Like males, transgender athletes have been altogether underrepresented in ED research. This research will require universal screening and valid measurement tools, two things that are largely lacking. The ED prevention research has largely targeted female athletes and athlete behaviors and mindsets specifically. Prevention efforts aimed at or at least inclusive of male and transgender athletes, involving coaches and sports medicine staff and designed to shift cultural

norms by implementing policies in the sport environment, are needed. Treatment of EDs in sport has received very little attention in research. This is a wide-open area for investigation that could facilitate the identification of best practices and specific factors associated with readiness to return to sport. In the meantime, the information gathered in this qualitative study can serve as a catalyst for education, training, and awareness building of EDs in male sport. These findings can inform the development of the necessary policy, prevention, and intervention efforts that can move the needle on the public health problem of EDs in sport.

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