

A qualitative exploration of narratives among problematic exercise experiences

ÁLVARO SICILIA^{1*} , MANUEL ALCARAZ-IBÁÑEZ¹ ,
ATTILA SZABO²  and MARK D. GRIFFITHS³ 

Journal of Behavioral Addictions

¹ Department of Education & Health Research Centre, University of Almería, Spain

² Department of Psychology and Health Management, Széchenyi István University, Győr, Hungary

³ Psychology Department, Nottingham Trent University, UK

DOI:
10.1556/2006.2025.00526
© 2026 The Author(s)

Received: November 18, 2025 • Revised manuscript received: January 19, 2026 • Accepted: January 25, 2026

FULL-LENGTH REPORT



ABSTRACT

Background and Aims: Exercise is recognized as essential for health, but exercise addiction remains a lesser-known phenomenon. Unlike substance addictions, excessive exercise is often celebrated, making it difficult to distinguish between dedication and compulsion. To understand what exercisers perceive as problematic within their exercise context, a qualitative study was conducted investigating personal experiences. *Methods:* Through a reflexive thematic analysis, the present study analyzed 153 narratives from individuals who experienced physical, psychological, or emotional problems due to exercise. *Results:* Four main themes emerged: (i) The social pressure of a performativity-oriented culture; (ii) Everything seemed to be going well until the injuries appeared; (iii) Time is money: Interpersonal conflicts; and (iv) It is my responsibility: Intrapersonal conflict. The results suggest that a culture of performance provides an interpretive framework that shapes and sustains problematic exercise experiences. Participants internalized performative values, leading to strict demands and fear of failure, resulting in severe injuries in over 70% of cases. In participants' narratives, the forced interruption of activity was associated with the reported emergence of withdrawal symptoms, with health and morality discourses providing the framework for rationalizing their excessive dedication. *Conclusions:* These findings suggest that problematic exercise is not an individual issue, but an expression of a broader culture prioritizing performance. These results underscore the importance of shifting toward biopsychosocial interventions that foster identity flexibility and prioritize holistic well-being and enjoyment over performance metrics.

KEYWORDS

problematic exercise, exercise addiction, narratives, performance, subjective experience

INTRODUCTION

Exercise is universally recognized as a cornerstone of health and well-being (Ashdown-Franks et al., 2020). The physical and psychological advantages of exercise have been widely reported, making it a key approach in public health promotion in developed countries (Sallis, 2015). However, relatively little is known about exercise addiction, a contradictory phenomenon that involves compulsive and maladaptive exercise behavior resembling addictive characteristics (Juwono & Szabo, 2021).

Defined as a behavioral addiction, exercise addiction shares core characteristics with other compulsive disorders (i.e., salience, mood modification, tolerance, withdrawal, conflict, and relapse) (Griffiths, 2005, 2019). However, exercise addiction is not officially classified as a mental health disorder in the leading psychiatric manuals (e.g., American Psychiatric Association, 2013; World Health Organization, 2025), due to the lack of sufficient scientific evidence regarding diagnostic criteria and its developmental course. This situation reflects a broader and more problematic trend in the field of behavioral addictions, marked by

*Corresponding author.
E-mail: asicilia@ual.es

excessive and simplistic over-pathologization of everyday activities (Billieux, Schimmenti, Khazaal, Maurage, & Heeren, 2015). A crucial flaw, according to Billieux et al. (2015), has been to identify addictive behaviors in daily life without considering significant functional impairment in daily life and the stability of dysfunctional behavior, which these authors consider to be two necessary factors in defining a genuine pathological condition. To respond to this challenge, the present study examined the lived experiences of individuals who report negative consequences resulting from their exercise practice. By adopting an inductive and narrative approach, the study sought to address the shortcomings noted by Billieux et al. (2015), who criticized the use of atheoretical and confirmatory approaches that simply apply substance addiction criteria to everyday activities without considering the specific phenomenology or sociocultural context of the subject.

However, identifying a pathological condition in exercise behavior may be more complicated than it is for psychoactive substance addictions because exercise is typically viewed as a positive activity, often associated with personal discipline, self-care, and achievements (Moreau et al., 2023, 2024; Nicholls, Dean, & Ogden, 2025). Acknowledging excessive exercise as unhealthy is complicated by the endorsement of this cultural phenomenon, which perpetuates the misbelief that “more is better” (Cairney, McGannon, & Atkinson, 2018). Consequently, in performance-oriented societies, exercise addiction may evolve under the guise of dedication, driven by ideals of self-improvement and body optimization (Andreasson & Johansson, 2014; Thualagant, 2016).

Although research on exercise addiction has grown in recent years, its subjective manifestations and ecological validity remain insufficiently explored (Juwono & Szabo, 2021). The field has been dominated by correlational and quantitative designs, with relatively few qualitative inquiries into the lived experiences of those at risk (Szabo, Juwono, & Bulgay, 2025). Early qualitative work, such as Griffiths’ (1997) case study of an amateur martial artist, demonstrated that exercise addiction could manifest within non-clinical populations. More recently, using the addiction components model (Griffiths, 2005), Baker, Griffiths, and Calado (2023) identified addiction-like symptoms among female amateur cyclists. While these studies highlight potential maladaptive aspects of exercise behavior, they primarily integrate participants’ narratives into preexisting theoretical frameworks rather than exploring the phenomenon inductively.

Diagnostic models, while useful, offer a symptomatic lens that risks overlooking the experiential, motivational, and sociocultural dimensions of this behavior (Moreau et al., 2023; Szabo et al., 2025). Traditional approaches, mainly based on substance addiction models (Griffiths, 2005, 2019; Sicilia, Alcaraz-Ibáñez, Paterna, & Griffiths, 2021), often medicalize and oversimplify behavior into *healthy* versus *pathological* categories, overlooking the complex connotations associated with exercise behavior (Nicholls et al., 2025). This reductionist orientation inadequately captures the complexity of the socially embedded and

psychologically-mediated experiences that constitute exercise addiction.

Despite progress in its conceptualization, defining exercise addiction remains fraught with ambiguity (Alcaraz-Ibáñez, Paterna, Griffiths, & Sicilia, 2024; Sicilia et al., 2021). Its overlap with obsessive exercise (Juwono & Szabo, 2021) and frequent comorbidity with eating disorders (Dittmer, Jacobi, & Voderholzer, 2018) blur diagnostic boundaries. Exercise addiction, like other behavioral addictions, such as work addiction or internet addiction, is characterized by behaviors that society often promotes rather than criticizes (Brossard, 2019). The primary challenge in this context lies in distinguishing between healthy dedication and problematic compulsion, a distinction that depends on the exercise’s subjective meaning, psychological role, and cultural context.

Previous qualitative research has shown a disconnect between diagnostic criteria and the lived experience of exercise addiction. Some constructs (e.g., tolerance, abstinence), although central to models of addiction, have shown limited or ambiguous evidence in the context of behaviors such as exercise (Billieux et al., 2015). For example, Johnston, Reilly, and Kremer (2011) observed that women who engaged in intense exercise may report withdrawal-like symptoms but not identify as addicted. Conversely, Szabo (2018) reported that a young female bodybuilder, despite her self-identification as an exercise addict and meeting several exercise addiction criteria, experienced strong well-being, control, and positive life outcomes. Nicholls et al. (2025) highlighted this disconnect by demonstrating that tracking workouts can be experienced as either empowering or compulsive. This disconnect complicates diagnosis and intervention (Moreau et al., 2023; Szabo et al., 2025).

The aforementioned qualitative research has mainly focused on highly involved exercisers (Baker et al., 2023; Griffiths, 1997; Johnston et al., 2011; Nicholls et al., 2025) or, exceptionally, individuals who self-identify as exercise addicts (Moreau et al., 2023, 2024; Szabo, 2018). Recently, some studies have identified individuals who suffer harm due to exercise, locating real cases in digital media and non-academic platforms (Juwono & Szabo, 2021; Szabo et al., 2025). These studies found that exercise addiction is a broader social problem that extends beyond clinical populations, while also suggesting that exercise addiction cannot be fully understood through linear models, but is instead a multifaceted phenomenon shaped by individual psychology, social regulations, and technology.

The difficulty in distinguishing between excessive and problematic exercise lies in the contextual, subjective, and multifaceted nature of the experience (Nicholls et al., 2025; Szabo et al., 2025). A qualitative approach offers the epistemological flexibility required to examine these nuances. By exploring the meanings, motivations, and relational dynamics underlying compulsive exercise, qualitative research can move beyond pathologizing frameworks and illuminate how individuals construct, rationalize, and negotiate their relationship with exercise. Such an approach recognizes that the significance of exercise addiction extends beyond the symptom level, encompassing identity, agency, and cultural belonging.

This view calls for a conceptual and methodological reorientation that shifts the focus from diagnosing pathology to understanding experience. Rather than applying pre-determined addiction criteria, researchers should attend to how exercisers articulate distress, negotiate control, and make sense of bodily and emotional transformations within their sociocultural contexts. Therefore, the objective of the present study was to qualitatively examine the narratives that individuals shared about their problematic experiences with exercise. By giving voice to these experiences, the present study aimed to enrich the theoretical understanding of exercise addiction and provide nuanced insights that could pave the way towards more productive research in an area where more than 1,000 papers have already been published without major advancements in knowledge (Szabo, 2025)

METHODS

Participants

Three inclusion criteria were established for participation in the present study: (i) being 18 years or older; (ii) currently or previously experiencing a physical, psychological, social, or emotional problem attributed to exercise; and (iii) providing informed consent. During the data collection period, 534 individuals accessed an online survey, of whom 376 met the inclusion criteria. Among these, 153 participants (40.7%) completed an open-ended qualitative question, offering detailed descriptions of their problematic experiences with exercise. The present analysis is based on these 153 qualitative accounts. The sociodemographic and exercise-related characteristics of the sample are shown in Table 1.

Data collection procedure

Data for the present study were gathered through an online Spanish-language questionnaire administered via the *Qualtrics* research platform. An invitation to participate, along with a link to the survey, was distributed over a one-year period (beginning in September 2024) through sports centers, universities, social networks, *WhatsApp* groups, and sporting events in Spain. Prospective participants first answered two screening questions to confirm that they were at least 18 years old and had previously or were currently experiencing difficulties related to exercise. Only those who responded “yes” to both items were allowed to continue. Eligible participants were then presented with information detailing the study’s objectives, potential benefits, and ethical issues, followed by a consent form.

After providing informed consent, participants completed several sections of the survey. A core component of the survey was an open-ended question that invited them to describe in detail any difficulties or negative experiences (physical, psychological, social, and/or emotional) arising from their exercise engagement. The question was intentionally broad to avoid priming participants with terms such as *addiction*, *dependence*, or *compulsion* and to encourage

Table 1. Sociodemographic and exercise-related characteristics of sample

Variable	All N = 153 N (100%)	Females N = 59 N (38.6%)	Males N = 94 N (61.4%)
Sex			
Female	59 (38.6)		
Male	94 (61.4)		
Age (M = 32.45 years, SD = 14.75)			
18–30	89 (58.2)	35 (59.3)	54 (57.4)
31–40	19 (12.4)	8 (13.6)	11 (11.7)
41–50	18 (11.8)	5 (8.5)	13 (13.8)
51–60	18 (11.8)	6 (10.2)	12 (12.8)
61–70	8 (5.2)	4 (6.8)	4 (4.3)
+70	1 (0.7)	1 (1.7)	0 (0)
Mental disorder self-reported			
Eating disorder (anorexia, bulimia)	9 (5.4)	5 (8.48)	4 (4.26)
Mental disorder (anxiety, depression, bipolar disorder)	20 (13.1)	11(18.64)	9 (9.57)
No self-reported diagnosis	124 (81.05)	43 (72.88)	81 (86.17)
Time of the narrated event			
Past	121 (79.1)	45 (76.3)	76 (80.9)
Present	32 (20.9)	14 (23.7)	18 (19.1)
Exercise modality referred to in the event			
Individual sports (e.g., cycling, athletics, swimming)	41 (26.8)	23 (39)	18 (19.1)
Team sports (e.g., soccer, basketball, volleyball, handball)	51 (33.3)	13 (22)	38 (40.4)
Gym activities (e.g., crossfit, powerlifting, dance, yoga)	23 (15)	9 (15.3)	14 (14.9)
Martial arts (e.g., karate, taekwondo, judo)	19 (12.4)	7 (11.9)	12 (12.8)
Extreme sports (e.g., mountaineering, freediving)	10 (6.5)	4 (6.8)	6 (6.4)
Multi-activities	8 (5.2)	3 (5.1)	5 (5.3)
Not informed	1 (0.7)	0 (0)	1 (1.1)
Weekly exercise sessions reported			
3–4	41 (26.8)	16 (27.1)	25 (26.6)
5–7	54 (35.3)	16 (27.1)	38 (40.4)
8–10	37 (24.2)	13 (22)	24 (25.5)
11–14	9 (5.9)	5 (8.5)	4 (4.3)
Not known	12 (7.8)	9 (15.3)	3 (3.2)
Participation in competitions			
Yes	90 (58.2)	29 (49.2)	60 (63.8)
No	64 (41.8)	30 (50.8)	34 (36.2)
Currently exercises			
Si	143 (93.5)	53 (89.8)	90 (95.7)
No	10 (6.5)	6 (10.2)	4 (4.3)

Note: Number of participants with corresponding proportion of the sample in brackets for the whole sample, as well as for the groups of females and males.

unprompted, authentic accounts. Participants were asked to narrate the circumstances, context, and outcomes of their experiences, including when and where they occurred,

perceived consequences, and any subsequent resolution. Additional items collected information on sociodemographic characteristics, health conditions, and exercise patterns (type, frequency, and intensity).

Data analysis

The data were exported from *Qualtrics* in text format for qualitative analysis and in .sav format for statistical examination of sociodemographic and exercise-related variables. The dual export enabled the interpretation of each participant's narrative in the context of their demographic and exercise profiles. Participants' accounts of challenging exercise experiences were analyzed through reflexive thematic analysis (Braun & Clarke, 2022), within a framework that incorporated critical realism (Danermark, Ekstrom, Jakobsen, & Karlsson, 2005). Critical realism posits an ontological realism combined with epistemological relativism, acknowledging that knowledge of this reality is socially- and culturally-mediated (Danermark et al., 2005). From this stance, individuals access reality only through their subjective interpretations, shaped by unique experiences and social contexts. Accordingly, the critical realist approach did not aim to predict outcomes but to explore the subjective meanings underlying problematic exercise behaviors and their perceived negative consequences.

Following Braun and Clarke's (2022) six-phase process, the first two authors immersed themselves in the data through repeated readings to gain familiarity with participants' narratives. Key features were then identified and coded using descriptive labels, which were subsequently compared and refined across cases. Through collaborative discussion, the researchers identified patterns of shared meaning and linked them to central conceptual ideas, thereby constructing preliminary themes related to the study's research question. The data segments associated with each theme were organized, reviewed, and refined iteratively to ensure coherence and theoretical alignment. To enhance reflexivity, the authors engaged with relevant literature on negative exercise experiences, addictive behaviors, and exercise addiction, which informed the interpretation and enriched the representativeness of participants' perspectives. Finally, the emergent themes and interpretations were discussed with the remaining authors, who acted as critical friends (Sparkes & Smith, 2014), providing alternative viewpoints and ensuring analytical rigor throughout the process.

Ethics

The present study procedures were carried out in accordance with the Declaration of Helsinki. The research ethics committee of Almería University approved this research (Ref: UALBIO2024/030). All participants were previously informed about the study and all provided informed consent.

RESULTS AND INTERPRETATION

Analysis of the accounts showed a central link where the problematic exercise is configured and perpetuated within a

framework of performative culture. The results are presented below, grouped into four main interrelated themes: (i) *The social pressure of a performativity-oriented culture*; (ii) *Everything seemed to be going well until the injuries appeared*; (iii) *Time is money: Interpersonal conflicts*; and (iv) *It is my responsibility: Intrapersonal conflict*. The internalization of performative culture, which equates personal value with performance, is associated with constant self-demand among participants. Within this context, physical injuries emerged as critical turning points in the configuration of problematic exercise symptoms.

The social pressure of a performativity-oriented culture

Analysis of participants' experiences suggested the omnipresence of a performative culture surrounding exercise behavior. According to Ball (2003), performativity is a form of cultural control and regulation that uses judgments, comparisons, and displays as means of both material and symbolic incentives and sanctions. The actions and performances of individuals and organizations serve as indicators of productivity and quality, representing their value and status within a particular field of assessment. In settings such as gyms, sports teams, and online fitness groups, participants can feel evaluated by physical metrics (e.g., muscle mass and athletic performance) which dictate their perceived status and value (Andreasson & Johansson, 2014; Thualagant, 2016). The next section shows how participants felt pressure from a performative culture in exercise, which often becomes internalized, thereby leading individuals to prioritize enhancing physical appearance or body capabilities over enjoying themselves or maintaining overall health.

External pressure. Pressure was exerted by teachers, coaches, instructors, parents, and peers, who prioritized quick results over overall health. Ginés (aged 20), who began playing soccer at 10 years old, recalled how a new coach's lack of empathy and interpersonal skills decreased his motivation to continue playing. Fran (aged 20), acknowledged that emotional imbalances arose from his coaches' decisions, going so far as to say that the excessive focus on performance caused them to overlook the fact that "*before being athletes, we are people*". Antonia (aged 20), a basketball player, recounted an event that illustrated this extreme pressure, even in difficult personal circumstances:

My grandmother was in the hospital in very bad shape, and that day I went to practice and missed a shot when I was alone. I accept my mistake, but he verbally reprimanded me for it in a very harsh manner, without considering my individual circumstances, which led to me becoming emotional due to the frustration it caused me (Antonia).

Even in non-competitive contexts, such as prescribed exercise, seven participants indicated that the evaluation of exercise focused on the achievement of external goals, without considering individual limitations, increasing the risk of injury. Ruth (aged 21) experienced chronic muscle spasms due to improper weightlifting in a guided class, an event that affected her psychologically and limited her daily

life for over a year. Rebeca (aged 42) reported that being instructed to do deadlifts in a weight training class caused her severe lower back pain because the necessary adjustments for individuals with lordosis/kyphosis or without prior muscle tone were not made, and they started with too much weight.

As with coaches and instructors, parents and guardians were also identified as sources of pressure, in some cases due to the practice of exercise to success or a professional career for their child. The case of Manolo (aged 40), an aspiring professional tennis player, is paradigmatic. Pressure from his coach and family led to overtraining, going from 15 to 34 h per week in the summer and in extreme temperatures. Although Manolo repeatedly said he felt “*very tired*”, the workload was not reduced. In his narrative, Manolo associated the experience of extreme exhaustion resulting from overtraining with the development of a profound emotional distress that he described as depression, for which he received psychiatric treatment. Manolo gave up tennis, driven under pressure and did not pick up a tennis racket for 20 years, eventually having to live away from his family.

The pressure was also felt through the exclusion of classmates due to poor performance. Rubén (aged 21), who at the time of the study had symptoms of depression, recalled how, when he was aged 11, he was excluded by his classmates for not knowing how to play soccer, with phrases that still resonate with him, such as “*We don’t want to go with you. You don’t know how to play soccer*”. In his words, this exclusion generated “*a kind of fear of everything related to that sport that made me feel physically and emotionally incapable in many ways that spread throughout my life*” to the point that he still finds it difficult to practice this sport.

Regardless of effort or interest shown, participants noted that all these agents were focused on results, which was seen as part of a culture that prioritizes performance over other considerations and has been identified as problematic and exclusionary (Madigan, Olsson, Hill, & Curran, 2022). In a performative setting, those who excel and meet the cultural standards receive benefits (success, recognition), whereas individuals who do not meet expectations incur negative outcomes (discomfort, shame, devaluation) (Dworkin & Wachs, 2009; Thualagant, 2016). Those participants who initially met the expectations of this performative culture showed that they had internalized the cultural values that permeated this environment. However, this internalization of performative culture shapes a framework for action in which individuals tend to prioritize optimizing their physical appearance and bodily capabilities over maintaining overall health.

Internal pressure. Immersion in the sports community involves internalizing a normative horizon of excellence and performance characteristic of performative culture, which views the body as a disciplined project (Shilling, 2010). This internalization transformed performative values into an internal framework where success or failure directly reflected the individual’s moral character and willpower (Crawford, 2006; Thualagant, 2016). Through socialization, the individual absorbs and adopts the values, norms, expectations,

and practices focused on performance and goal achievement via exercise. When individuals internalize performative culture, they turn it into an internal framework that guides their behavior, physical discipline, and identity construction (Brewer & Petitpas, 2017; Laurel, Christopher, Ciara, Gil, & William M, 2023; Sparkes, 1998).

More than half of the participants acknowledged feeling self-imposed pressure because of having internalized the cultural values of a performative culture in the context of exercise. Ginés (aged 23) blamed his CrossFit stress and injuries on overexertion. In contrast, Virgilio (aged 20) cited exhaustion caused by high-intensity training and self-imposed pressure to succeed in cycling. Belén (aged 20), who competed in weightlifting, observed that handling both internal and external pressure demanded significant strength, yet admitted that falling short of expectations took a substantial toll on her emotions, showing that days without meeting desired percentages or technique standards significantly affected her mood and mental state, ultimately impacting the rest of her day.

Self-imposed expectations often result from performative socialization, leading to a desire to consistently challenge oneself (such as improving times or lifting more weight). Internalization tends to lead individuals toward perfectionism, a trait that may promote adherence to exercise and enhanced performance (Kim, Madigana, & Hil, 2025), but can also result in negative physical outcomes (e.g., injuries) and psychological consequences (e.g., stress, anxiety, negative emotions) (Madigan, Stoeber, Forsdyke, Dayson, & Passfield, 2018; Sagar & Stoeber, 2009).

Some of the participants acknowledged that internal pressure generated a fear of failure, which was perceived as a central threat to meeting the expectations of the performative culture (Taylor, Eklund, & Arthur, 2023). For example, Gonzalo (aged 56), a former judo competitor, experienced chronic anxiety that only disappeared when he stopped competing. He stated that this anxiety was present “*both in training and in competition, and [in] my daily life*”, and the main cause, in his words, was “*the fear of failing and not achieving my goals*”. Similarly, Cornelio (aged 20), a high-performance taekwondo athlete, illustrated how the fear of losing became a psychological problem. Following a year in which he failed to retain championships he had previously won, he ceased participating and exercising, withdrawing from social interactions. It was not until he underwent psychotherapy with a sports psychologist that he was able to overcome that fear, coming to the realization that “*in life, you lose more than you win*”. Vicente (aged 20), a basketball player, admitted that he felt pressure from the team to perform well from the age of 14 years, developing a “*fear and discomfort of failing*” and worrying about “*what people will think or say*”. Vicente described how, in the long run, this pressure, which was initially external but later became internal, ended up causing him psychological, social, and emotional problems:

I [...] had been signed by a basketball club [...]. Then, after a few training sessions, I got injured, which prevented me from

practicing sports [...]. This ultimately led to inner conflict and external tensions with others, who frequently criticized my abilities and questioned my recovery pace without considering the potential impact on my physical or psychological well-being (Vicente).

Laura (aged 21), a triple jump athlete who stopped competing due to criticism over her technique, showed that it made her focus on the audience rather than striving for excellence, leading to a decline in her performance and ultimately prompting her to quit. Virginia (aged 24), a former pole vaulter, reported that she went through episodes of depression and anxiety. Despite having achieved very good results since she was a child, she had less success later on, which, together with some injuries, caused her to freeze up. Virginia described how the activity that should have been enjoyable ended up undermining her personal development to the point where she had to give up her sport.

I reached a point where [...] the runway gave me panic attacks. [...] I was afraid of failing, of not being good enough, of not catching up with my rivals [...]. What used to be my daily happiness became my nightmare. Eventually, I quit (Virginia).

Participants agreed that exercise initially had a positive effect on them (e.g., increased self-esteem, greater body satisfaction, reduced anxiety). However, given that the ideal of continuous performance was unrealistic (Thualagan, 2016), the pressure to push boundaries and constant comparison tended to generate negative emotions (Madigan et al., 2022; Taylor et al., 2023). Within the context of their experiences, participants articulated a spectrum of emotional distress in which meanings associated with fear of failure and feelings of guilt emerged, as well as states that they subjectively identified with anxiety, depression, and frustration.

Everything seemed to be going well until the injuries appeared

In the accounts of 108 participants (more than 70% of the sample), suffering an injury emerged as the most adverse experience, being described by the participants themselves as a traumatic disruption that jeopardized the continuity of their physical project and athletic identity, while also having negative psychological and emotional consequences. The following two subsections address each of these issues.

Injury as a disruption of the athletic identity. Developing a unified athletic identity fosters a robust sense of self and heightened dedication to physical activity. However, existing research has indicated that a strong athletic identity can become a source of vulnerability in situations where injury is perceived by the individual as a traumatic disruption of their identity project (Brewer, Van Raalte, & Linder, 1993; Malcolm & Pullen, 2020; Sparkes, 1998). In fact, individuals with a strong athletic identity show greater signs of anxiety, depression, and low self-esteem when their identity and body image are threatened (Allen Collinson & Hockey, 2007; Laurel et al., 2023).

Participants described their injuries as traumatic experiences which forced them to modify the intensity or type of exercise they did, causing uncertainty and frustration. Fran (aged 21) described the minor “*ordeal*” he had to endure after a meniscus injury that led to surgery and a slow recovery process, forcing him to change the type and intensity of his exercise. Gregorio (aged 24) recounted his despair after an injury while playing indoor soccer:

It was emotionally challenging after I injured my anterior cruciate ligament, as I had to stop participating in sports almost daily for two years due to the doctors’ inability to identify the issue. That made me very frustrated because I didn’t know what was going to happen to me [...] Finally, after visiting quite a few doctors, it was resolved, but it was exasperating (Gregorio).

Participants reported experiencing a conflict between stopping to recover due to their physical state and continuing to practice to meet the performance culture’s expectations and maintain their professional identity. The need to reaffirm their identity led some to train despite pain or medical advice against it, a classic symptom of problematic exercise (Griffiths, 1997; Sicilia, Alcaraz-Ibáñez, Paterna, & Griffiths, 2022). Felipe (aged 23) admitted to continuing to train his shoulder despite the discomfort “*so as not to lose the rhythm of the gym*”, aggravating his injury. Cintia (aged 38), a trail runner, recounted how she suffered from runner’s knee and chondromalacia patella and, in her own words, stated that it was the result of “*excessive training load without paying attention to the discomfort my body was showing*”. Roberto (aged 39), an ultra-trail runner, underwent eight training sessions and 20 h of exercise per week, described a history marked by multiple minor injuries and two long-term injuries: a stress fracture in his femur and a hip injury. In his account, this physical interruption was described as an experience of profound emotional distress, manifesting symptoms that he associated with (and subjectively characterized as) depression.

By internalizing the performance culture, participants accepted injury and pain as a normal part of the process of achieving and exceeding their goals. As suggested by Nicholls and Ogden (2025), individuals facing injury seem to weigh costs and benefits to justify harmful behaviors. This normalization of pain, reinforced by social pressure and fear by people of losing their level, leads individuals who are highly involved in exercise to train despite discomfort. Jacobo (aged 22), a powerlifting athlete with a history of injuries, maintained a narrative of resilience and hope for the future despite his frustration at not performing:

I was a powerlifting athlete [...]. I started to have lower back pain, which affected all my basic movements. [...] I competed [...] unable to perform at my best, and this frustrated me [...] but I still continued. [...] my objective shifted from wanting to have fun [...] to simply feeling satisfied. [...] I spent my savings on different physical therapists, but nothing worked. [...] I am currently seeing a rehabilitation specialist [...] and on the other days I train freely [...] looking for those that do not cause me pain. Psychologically, I believe that this [...] has

made me grow [...] dealing with the discomfort is [...] a headache, but [...] I have acquired tools to not give up and know that [...] I will return to training for my sport. I don't know when, but I will (Jacobo).

Jacobo's account shows how a series of injuries transformed his sporting experience into a constant quest to restore his damaged body and return to powerlifting. His narrative shows a sporting resilience based on perseverance and faith in recovery as key resources for coping with the psychological impact of injury. Jacobo's experience illustrates how a rigid athletic identity and a culture of resistance to pain shape the relationship with the body, creating tension between enjoyment and the demand for improvement. Although the narrative of restoration promotes psychological resilience, it can limit the construction of more flexible identities in the face of the possibility of not fully returning to sport (Brewer & Petitpas, 2017; Laurel et al., 2023; Sparkes, 1998).

Configuration of negative psychological and emotional experiences in the context of injury. In the participants' narratives, the forced interruption of the practice was described as an unpleasant experience in which meanings associated with withdrawal symptoms emerged, such as anxiety, irritability, mood swings, and psychological distress. Nuria (aged 18), a Skicross skier, recounted the psychological, social, and emotional effects she experienced after suffering a serious ligament injury. According to her account, pressure from her coaches and changes in her sports schedule caused an imbalance that affected her social relationships and school grades and led to hormonal and emotional changes. Felipe (aged 23), who had to stop due to a shoulder injury, and experienced distress, stating that he *"felt like all his work had been lost"*. He acknowledged that this changed his mood, decreased his desire to do things, and even caused him to lose his appetite. In his words, *"all I could think about was the gym and going to train"*. Mood modification has been indicated as one of the clearest patterns of withdrawal symptoms in exercise behavior (Fernandez, Kuss, & Griffiths, 2020). In this vein, Ramiro (aged 19) described his irritability associated with inactivity:

Due to injuries, such as ankle sprains, that prevent me from participating in sports, I feel anxious, frustrated, and enthusiastic to play, resulting in a poor mood and causing me to become irritable toward everything (Ramiro).

To alleviate their symptoms, some participants reportedly turned to alternative coping mechanisms. For example, Roberto, a 39-year-old ultra trail runner, the emotional distress he associated with his injuries manifested itself in the search for subjective coping mechanisms, such as the decision to disconnect from social media to avoid exposure to sports content that could intensify his feelings of despondency. However, he persisted in practicing a different sport that he could engage in despite his injury, as this helped him to *"alleviate my low mood a little"*. Sebastián (aged 23) found a substitute activity at the gym when he had to stop competing in handball because, as he acknowledged,

"I needed to find another place to relax and not feel overwhelmed, and until I found it, I felt like I wasn't 100% and I got angry more easily". Fede (aged 42) had suffered from depression since adolescence because of being removed from his soccer team, which he considered his family. In the years following his exclusion from the team, he admitted to having taken refuge in online videogames so as not to *"go crazy"*. This activity took over part of his life, prevented him from sleeping, and aggravated his psychological state.

Time is money: interpersonal conflicts

Excessive dedication to exercise, characteristic of problematic behavior, generated tension and distancing from family, partners, and friends. Antonio (aged 44) reported sleep problems, sexual relationship problems with his partner, and social problems due to overtraining in triathlon. Jesus (aged 43) recalled that when he was more intensely dedicated to exercise, he had limited free time and was unable to spend time with friends, although he acknowledged the pressure he felt from his friends. Similarly, Fernando (aged 31) claimed to have experienced social isolation from his friends during the period when he focused on cycling. Marta (aged 23) described the *"mental burden"* of balancing indoor soccer competitions with her studies:

I didn't have time to devote to my studies, to get enough rest, to eat properly, or to socialize. I also lived with my partner and my pet and couldn't spend any time with them. On weekends, I had to travel long distances to play matches (Marta).

Adolescence emerged as a period of conflict between the demands of exercise and social life. For some, such as Bernardo (aged 20), this moment meant breaking with the sports regime, prioritizing freedom and relationships with friends over the sacrifice of competition. However, others remained dedicated to exercise, legitimizing it as a healthy and morally superior practice. For example, Ángel (aged 40) contrasted his lifestyle focused on training and self-care with the idle behaviors of his peers, reinforcing a narrative of virtue associated with sacrifice and self-discipline:

As a teenager, I trained every day, sometimes even doing double sessions, while my friends went out and hung around. Many weekends involved competitions on Saturday and Sunday, and they didn't understand that I had to rest and perform at my best. That's why I didn't go out, drink alcohol, or smoke, and [they] didn't understand. The life of a young athlete who wants to perform at their best must be taken care of in all aspects. Many of my friends/high school classmates shunned me because they didn't understand my lifestyle (Ángel).

Ángel contrasted his lifestyle (training, taking care of himself, performing at his best) with that of his friends (smoking, drinking alcohol, hanging out). By using this contrast, Ángel not only differentiated between behaviors but also introduced a moral hierarchy, such that exercise appears as a superior, healthy, and legitimate practice, while the other activities are presented as trivial or harmful.

The discourse of taking care of oneself and performing at one's best, functioned in Ángel's case, as a rationalization mechanism that obscured the potentially problematic nature of exercise.

It is my responsibility: intrapersonal conflict

Interpersonal conflict refers to the tension between the individual and those around them (e.g., friends, family, and partner) that occurs or could occur due to exercise. Intrapersonal conflict occurs within the individual due to their dedication to exercise. In the present study, intrapersonal conflict manifested itself in a twofold feeling of guilt: guilt for excess (associated with compulsion) and guilt for omission (associated with obligation/duty).

A feeling of guilt for excessive exercise was reported by individuals who began to perceive that exercise dominated other areas of their lives. Mariano (aged 59) recounted how he quit the gym when he began to feel bad about putting exercise before other obligations in his life. Octavio (aged 43) acknowledged a specific feeling of guilt when, after long periods at work, he decided to go training because he spent little time with his family. Similarly, Sixto (aged 26), who dedicated between 30 and 40 h a week to cycling, had the following reflection:

Due to my discipline and desire to improve in my sport, without being a professional, I have given up everything that is considered normal in this society (whether or not it involves harmful habits). Therefore, I consider that I have sacrificed valuable years of my life in exchange for training. I have lost two relationships. Everything I do daily is for training and competition, to the point where I have distanced myself socially from all my friends who are not involved in training, as well as narrowing my perspective and sometimes becoming very selfish toward others (Sixto).

A feeling of guilt by omission was recognized among participants motivated by body image or health imperatives. Andrés (aged 20) linked his compulsive exercise to the pressure to maintain an image and the fear of social rejection. Andrés described the positive reinforcement that came from changing his body image through exercise, but at the same time the guilt he felt for not living up to his body's potential:

As I progressed at the gym and my physical transformation became more and more noticeable, I noticed how people's attitudes toward me changed and they respected me more. Also, seeing myself looking better physically and having a girlfriend who is too, I feel the pressure to always stay that way and keep improving despite the various circumstances or difficulties in my life because of an irrational fear of her no longer liking me, since before I looked like this, I could not have aspired to be with girls considered very attractive because I did not have that part covered (Andrés).

Andrés attended the gym every day of the week, performing between 8 and 12 exercise sessions per week, which caused him to decline social engagements due to the pressure of maintaining a preferred physical appearance. As he stated, "a day without training was a day less of

improvement". Some female participants also felt guilty, but their body image concerns were not primarily about building muscle, as in Andrés' case, rather it was about regulating their body weight. Pilar (aged 21), who acknowledged having shown symptoms of anorexia and bulimia, described her motivation underlying exercise as follows:

It all started between 9th and 10th grade (I have just finished my degree) when I began to try to lead 'a healthier life' with the little knowledge I had on the subject. And so I started doing sports at home, usually following the routines of 'PatryJordan', and I began to follow her exercise schedule, which was six days a week with one day of rest. I accompanied this with a very restrictive calorie diet. As soon as I grasped that I was trapped in a cycle from which I couldn't escape, I became extremely inflexible mentally and was unable to halt my exercise regimens or consume more than a handful of calories daily. This really started because of my need to lead a healthier life and lose weight, although today I don't really know why it all happened (Pilar).

Pilar acknowledged the obligation she felt to exercise, recognizing that she could not stop going to the gym and stating, "It's like a part of me. I don't know, it would be difficult for me to live without going to the gym because I would feel less functional in life". However, the moral obligation to exercise was not only perceived among individuals who exercised for body image reasons, but also the health motive was experienced as problematic for some participants. For example, Irene (aged 46) reported how trying to lead a healthy lifestyle made her feel "emotional stress and overwhelm from trying to exercise every day", which also led to muscle overload and minor injuries from overtraining or improper training. Monica (aged 39) recalled that she was required to engage in daily physical activity during her recovery from breast cancer and reconstructive surgery to mitigate the risk of her pain intensifying, a regimen that became an additional source of exhaustion on top of the fatigue caused by the medication. Although she had always enjoyed exercising, Monica ultimately recognized that it had now become an obligation. Similarly, Juan Antonio (aged 54) turned to exercise as a way to overcome a health problem, but the obligation became a burden for him.

I started walking 10 km every day for a month, and each month I added another 5 km, until I started running in the third month. When I first started running, I often suffered knee and ankle injuries. By the sixth month of running, it was affecting me psychologically because I wanted to improve every day (Juan Antonio).

Juan Antonio only managed to reduce his sense of obligation and break out of this cycle with the help of his partner and daughter, reducing his exercise to a moderate and more enjoyable level. Cases such as those of Irene, Monica, and Juan Antonio reflect a health imperative that justifies the internal pressure they exert on themselves to demand an effort that leads to a healthy life. In the context of a performative culture, exercise can become a moral responsibility (Crawford, 1980). This responsibility can push the individual not only to achieve aesthetic/athletic

standards but also to maintain a healthy lifestyle. The health imperative drove the internalization of exercise as a moral responsibility, which in turn made healthy activity an existential obligation. In these cases, inactivity was perceived as a moral failure or a sign of weakness, generating anxiety about not fulfilling the self-imposed duty to maintain one's health.

DISCUSSION

The purpose of the present study was to examine the problematic experiences provided by participants in the context of exercise. Research suggests that performative culture, a value system that prioritizes personal merit through performance, comparison, and continuous improvement (Andreasson & Johansson, 2014; Ball, 2003; Thualagant, 2016), informs the meaning-making processes underlying exercise that practitioners perceive as problematic. The results indicated that the internalization of this logic emerged in the narratives as a central process for making sense of dynamics of discomfort, where the pursuit of excellence and social comparison with peers were associated with the development of a relationship of dependence on exercise. These results suggest that problematic exercise cannot be understood as a mere individual pathology but rather as an expression of a broader biocultural regime that prioritizes performance, visibility, and metrics over holistic well-being.

First, the present study showed that the pressure of performative culture not only operated externally, through the expectations of coaches, peers, or family members, but also emerged in the narratives as a process of internalization (Andreasson & Johansson, 2014; Thualagant, 2016). Participants who incorporated these performative values tended to define their practice through strict demands and a paralyzing fear of failure, which subjectively manifested in states of chronic anxiety and frustration. Ultimately, this cycle was linked in the narratives to processes of abandonment or self-exclusion from the sporting arena (Taylor et al., 2023). This finding illustrates how performative culture is embodied by individuals, shaping a problematic relationship with exercise, which, in line with previous studies (Moreau et al., 2023, 2024) suggest that addictive behavior in exercise might be accentuated by the embodiment of specific cultural values in contemporary societies.

Second, the results suggest that the performative culture is intertwined with the high injury rate reported by participants. More than 70% of them described injuries that emerged in their accounts not as mere biomechanical accidents, but as events that disrupted their athletic identity, which were subjectively interpreted as traumatic psychological and emotional experiences (Brewer et al., 1993; Laurel et al., 2023; Sparkes, 1998). This narrative configuration indicates that, within a performative framework, injury is constructed as an existential threat that transcends bodily harm (Laurel et al., 2023). This explains why, despite the pain, many participants continued to train, a behavior that the literature points to as a key symptom of exercise

addiction (Griffiths, 1997; Sicilia et al., 2022). Participants internalized the values of comparison, overcoming, and demonstration, transforming them into a strict self-demand. This alters the initial motivation, which may have initially been driven by the pleasure of the activity, into one governed by external standards. This finding aligns with recent research associating the internalization of athletic ideals with an increased risk of developing obsessive exercise behaviors and addiction symptoms (Allen Collinson & Hockey, 2007; Szabo et al., 2025).

Third, the forced interruption of activity due to injury was experienced as an occasion for the manifestation of withdrawal symptoms, showing the compulsive nature of the behavior. Participants described states of anxiety and irritability, as well as feelings they subjectively identified as depression and a perception of having "lost all their work", which aligns interpretatively with the components of withdrawal and salience in behavioral addiction models (Griffiths, 2005, 2019; Sicilia et al., 2022). In this way, the emotional regulation function of exercise becomes intelligible through the search for substitute activities, such as refuge in videogames, the absence of which may be interpreted by the individual as a state of instability (Fernandez et al., 2020; Kim et al., 2021).

The study's findings both support and contest the components model of addiction (Griffiths, 2005, 2019), which has been foundational in exercise addiction research. The participants' accounts allowed the research team to identify components such as salience, mood modification, withdrawal, and conflict, not as elements of an autonomous psychopathology, but as experiences that they signify and situate within a web of sociocultural pressures and internalized performance imperatives. Performative culture and moralized health discourses demonstrate that apparent addiction symptoms often stem from culturally sanctioned self-demands and internalized expectations rather than distinct psychopathology. Consequently, while the components model is useful for spotting behavioral symptoms, it oversimplifies exercisers' lived realities by overlooking the socio-cultural and moral frameworks that shape their compulsion and control.

Finally, one of the most crucial contributions of the present study was to illustrate how some participants justified and legitimized their exercise practices, even those that emerged as problematic in their own accounts, through a discourse of health and morality, which allowed them to construct their persistence as an imperative of self-care and personal virtue rather than as a pathology. Ángel's narrative, which contrasts his *virtuous* lifestyle with the *trivial* leisure activities of his friends, is a clear example of healthism (Crawford, 1980). Healthism, as a neoliberal ideology, individualizes responsibility for health and turns it into a project of self-realization and a moral duty (Cairney et al., 2018; Malcolm & Pullen, 2020). This discursive framework masks compulsion under the guise of self-care, making it difficult for individuals and those around them to identify the behavior as problematic (Crawford, 1980). The internalization of this health imperative generates an intrapsychic

conflict that is similar to the guilt felt by those who exercise for reasons of body image and weight control. The discourse of healthism appears to be more widespread than that of body image, which also tends to influence older individuals. In all these cases, the guilt generated by the participant did not arise from excessive dedication, but rather from failing to fulfill the self-imposed obligation to exercise.

Problematic exercise is not merely individual pathology but a biocultural regime that prioritizes performance and metrics over well-being. Therefore, interventions must extend beyond physical rehabilitation to renegotiate sports values and foster flexible, resilient athletic identities. Key strategies include (i) health-focused education that challenges the *more is always better* myth for exercisers, coaches, parents and other stakeholders; (ii) screening that looks beyond volume to qualitative signs such as rigid identity, fear of failure, guilt by omission, and pain-ignoring; (iii) biopsychosocial injury care that adds psychological support to rebuild adaptable identities so inactivity is not seen as a loss of value; and (iv) programs that reconnect individuals to exercise for enjoyment and overall well-being rather than competition, thereby building resilience against a performative culture that values results and visibility.

Limitations

Despite the potential contributions of the results of the present study, some limitations should be acknowledged. First, the study was based on a thematic analysis of self-reported written accounts. A single open-ended question in an online survey generated these accounts, but this approach restricts the depth and richness of data that could be gathered via alternative methods, such as interviews, especially throughout the course of an individual's life. Because approximately 80% of the accounts were retrospective, the findings reflect participants' current sense-making of past experiences rather than in-situ experiential states, meaning that processes such as retrospective coherence, selective recall, and sociocultural reframing may have shaped how exercise-related discomfort was remembered and interpreted. Second, participants accessed an online survey, which may limit representativeness and may introduce a selection bias toward those more willing to share their experiences in online platforms. Third, the objective was to examine narratives of problematic experiences to enrich the theoretical understanding of exercise addiction. Therefore, the study refrained from using specific terms such as 'addiction' or 'dependence' in the key question to avoid predisposing the participant. It is worth noting that the results are not designed to make predictions and instead represent the subjective views of individuals on what constitutes 'problematic exercise' without providing a formal clinical diagnosis of addiction. Fourth, participants were from Spain whose social and cultural traditions of exercise may not be generalized without empirical verification. Finally, as is inherent in exploratory qualitative designs, the study describes patterns of experiences and social dynamics, which should not necessarily be inferred as causal relationships between isolated variables.

CONCLUSIONS

The results provide evidence that problematic exercise cannot be understood outside the cultural framework that frames it. Externalized pressure in performative culture can become internalized as self-imposed expectations, making individuals more susceptible to harm, which participants interpreted through the lens of addictive symptoms when these expectations are disrupted, and leading to relational and internal conflicts that are often justified under the guise of health and morality. The results suggest the need for a biopsychosocial intervention approach that goes beyond physical rehabilitation following injuries, focusing on rebuilding adaptable identities and individual resilience against performative cultures, promoting a connection with exercise grounded in enjoyment and overall wellness, rather than performance and ongoing competition, regardless of the specific objective each person has set (e.g., to be faster, stronger, thinner, healthier, etc.).

Funding sources: The first author received a mobility grant from the Ministry of Science, Innovation, and Universities, Spain (Ref. PRX23/00318).

Authors' contribution: Conceptualization, AS, MA-I and ASz; Data curation, AS; Methodology, AS; Data collection, AS; Formal Analysis, AS and MA-I; Critical discussion, explanation and interpretation of results, AS, MA-I, ASz and MDG; Writing—original draft preparation, AS; critical revisions, writing and editing, AS, MA-I, ASz and MDG; Visualization, AS; Supervision, AS and MDG; Funding acquisition, AS; Project administration, AS. All authors have read and agreed to the published version of the paper.

Conflicts of interest: The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this paper.

Data availability: The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to their containing information that could compromise the privacy of research participants.

Acknowledgements: The authors would like to thank Bhavya Chhabra for her help and assistance in entering the questions used in this study into the Qualtrics platform. The authors would also like to thank the participants for sharing their problematic personal experiences with exercise.

REFERENCES

- Alcaraz-Ibáñez, M., Paterna, A., Griffiths, M. D., & Sicilia, A. (2024). Psychometric properties of problematic exercise measures: A systematic review. *International Review of Sport and*

- Exercise Psychology*, 17(2), 1013–1049. <https://doi.org/10.1080/1750984X.2022.2111664>
- Allen Collinson, J., & Hockey, J. (2007). ‘Working out’ identity: Distance runners and the management of disrupted identity. *Leisure Studies*, 26(4), 381–398. <https://doi.org/10.1080/02614360601053384>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). American Psychiatric Publishing.
- Andreasson, J., & Johansson, T. (2014). *The global gym: Gender, health and pedagogies*. Palgrave Macmillan.
- Ashdown-Franks, G., Firth, J., Carney, R., Carvalho, A. F., Hallgren, M., Koyanagi, A., ... Stubbs, B. (2020). Exercise as medicine for mental and substance use disorders: A meta-review of the benefits for neuropsychiatric and cognitive outcomes. *Sports Medicine*, 50(1), 151–170. <https://doi.org/10.1007/s40279-019-01187-6>
- Baker, F., Griffiths, M. D., & Calado, F. (2023). Can cycling be addictive? A qualitative interview study among amateur female cyclists. *International Journal of Mental Health and Addiction*, 21(3), 1746–1769. <https://doi.org/10.1007/s11469-021-00624-w>
- Ball, S. J. (2003). The teacher’s soul and the terrors of performativity. *Journal of Education Policy*, 18(2), 215–228. <https://doi.org/10.1080/0268093022000043065>
- Billieux, J., Schimmenti, A., Khazaal, Y., Maurage, P., & Heeren, A. (2015). Are we overpathologizing everyday life? A tenable blueprint for behavioral addiction research. *Journal of Behavioral Addictions*, 4(3), 119–123. <https://doi.org/10.1556/2006.4.2015.009>
- Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. Sage.
- Brewer, B. W., & Petitpas, A. J. (2017). Athletic identity foreclosure. *Current Opinion in Psychology*, 16, 118–122. <https://doi.org/10.1016/j.copsyc.2017.05.004>
- Brewer, B. W., Van Raalte, J. L., & Linder, D. E. (1993). Athletic identity: Hercules’ muscles or achilles heel? *International Journal of Sport Psychology*, 24, 237–254.
- Brossard, B. (2019). Why mental disorders flourish and wither: Extending the theory of ecological niches. *Social Science & Medicine*, 237, 112445. <https://doi.org/10.1016/j.socscimed.2019.112445>
- Cairney, J., McGannon, K. R., & Atkinson, M. (2018). Exercise is medicine: Critical considerations in the qualitative research landscape. *Qualitative Research in Sport, Exercise and Health*, 10, 391–399. <https://doi.org/10.1080/2159676X.2018.1476010>
- Crawford, R. (1980). Healthism and the medicalization of everyday life. *International Journal of Health Services*, 10(3), 365–388. <https://doi.org/10.2190/3H2H-3XJN-3KAY-G9NY>
- Crawford, R. (2006). Health as a meaningful social practice. *Health*, 10(4), 401–420. <https://doi.org/10.1177/1363459306067310>
- Danermark, B., Ekstrom, M., Jakobsen, L., & Karlsson, J. C. (2005). *Explaining society: An introduction to critical realism in the social sciences*. Taylor and Francis. <https://doi.org/10.4324/9780203996249>
- Dittmer, N., Jacobi, C., & Voderholzer, U. (2018). Compulsive exercise in eating disorders: Proposal for a definition and a clinical assessment. *Journal of Eating Disorders*, 6, 42. <https://doi.org/10.1186/s40337-018-0219-x>
- Dworkin, S., & Wachs, F. (2009). *Body panic: Gender, health, and the selling of fitness*. New York University Press. <https://doi.org/10.1177/00943061103615890>
- Fernandez, D. P., Kuss, D. J., & Griffiths, M. D. (2020). Short-term abstinence effects across potential behavioral addictions: A systematic review. *Clinical Psychology Review*, 76, 101828. <https://doi.org/10.1016/j.cpr.2020.101828>
- Griffiths, M. D. (1997). Exercise addiction: A case study. *Addiction Research*, 5(2), 161–168. <https://doi.org/10.3109/16066359709005257>
- Griffiths, M. D. (2005). A “components” model of addiction within a biopsychosocial framework. *Journal of Substance Use*, 10(4), 191–197. <https://doi.org/10.1080/14659890500114359>
- Griffiths, M. D. (2019). The evolution of the “components model of addiction” and the need for a confirmatory approach in conceptualizing behavioral addictions. *Düşünen Adam: The Journal of Psychiatry and Neurological Sciences*, 32(3), 179–184. <https://doi.org/10.14744/DAJPNS.2019.00027>
- Johnston, O., Reilly, J., & Kremer, J. (2011). Excessive exercise: From quantitative categorisation to a qualitative continuum approach. *European Eating Disorders Review*, 19, 237–248. <https://doi.org/10.1002/erv.970>
- Juwono, I. D., & Szabo, A. (2021). 100 cases of exercise addiction: More evidence for a widely researched but rarely identified dysfunction. *International Journal of Mental Health and Addiction*, 19(5), 1799–1811. <https://doi.org/10.1007/s11469-020-00264-6>
- Kim, H., Madigana, D. J., & Hil, A. P. (2025). Multidimensional perfectionism and sport performance: A systematic review and meta-analysis. *International Review of Sport and Exercise Psychology*, Advance online publication. <https://doi.org/10.1080/1750984X.2025.2541342>
- Kim, H. S., Hodgins, D. C., Garcia, X., Ritchie, E. V., Musani, I., McGrath, D. S., & von Ranson, K. M. (2021). A systematic review of addiction substitution in recovery: Clinical lore or empirically-based? *Clinical Psychology Review*, 89, 102083. <https://doi.org/10.1016/j.cpr.2021.102083>
- Laurel, D., Christopher, C., Ciara, C., Gil, G., & Weiss, M. W. (2023). Impact of traumatic sports injury on an athlete’s psychological wellbeing, adherence to sport and athletic identity. *Journal of Sports Medicine and Therapy*, 8(3), 36–46. <https://doi.org/10.29328/journal.jsmt.1001070>
- Madigan, D. J., Olsson, L. F., Hill, A. P., & Curran, T. (2022). Athlete burnout symptoms are increasing: A cross-temporal meta-analysis of average levels from 1997 to 2019. *Journal of Sport & Exercise Psychology*, 44(3), 153–168. <https://doi.org/10.1123/jsep.2020-0291>
- Madigan, D. J., Stoeber, J., Forsdyke, D., Dayson, M., & Passfield, L. (2018). Perfectionism predicts injury in junior athletes: Preliminary evidence from a prospective study. *Journal of Sports Sciences*, 36(5), 545–550. <https://doi.org/10.1080/02640414.2017.1322709>
- Malcolm, D., & Pullen, E. (2020). ‘Everything I enjoy doing I just couldn’t do’: Biographical disruption for sport-related injury. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine*, 24(4), 366–383. <https://doi.org/10.1177/1363459318800142>

- Moreau, N., Larocque, E., Jaimes, A., Vinit, F., Quidu, M., & Favier-Ambrosini, B. (2023). Embodying or resisting social normativity? A carnal inquiry into exercise addiction experiences. *Social Science & Medicine*, 327, 115948. <https://doi.org/10.1016/j.socscimed.2023.115948>
- Moreau, N., Quidu, M., & Larocque, E. (2024). On becoming an “exercise addict”: Analyzing exercise addiction processes through the sociology of dispositional and contextual plurality. *Staps*, 143(5), 99–121. <https://doi.org/10.3917/sta.143.0099>
- Nicholls, K., Dean, P., & Ogden, J. (2025). Medical, subjective and objective forms of exercise dependence and the role of learning, cognitive and emotional biases. *Journal of Health Psychology*, 30(11), 3076–3091. <https://doi.org/10.1177/13591053241304561>
- Sagar, S. S., & Stoeber, J. (2009). Perfectionism, fear of failure, and affective responses to success and failure: The central role of fear of experiencing shame and embarrassment. *Journal of Sport and Exercise Psychology*, 31(5), 602–627. <https://doi.org/10.1123/jsep.31.5.602>
- Sallis, R. (2015). Exercise is medicine: A call to action for physicians to assess and prescribe exercise. *The Physician and Sports-medicine*, 43(1), 22–26. <https://doi.org/10.1080/00913847.2015.1001938>
- Shilling, C. (2010). Exploring the society–body–school nexus: Theoretical and methodology issues in the study of body pedagogics. *Sport, Education and Society*, 15(2), 151–167. <https://doi.org/10.1080/13573321003683786>
- Sicilia, A., Alcaraz-Ibáñez, M., Paterna, A., & Griffiths, M. D. (2021). Theoretical conceptualizations of problematic exercise in psychometric assessment instruments: A systematic review. *Journal Behavioral Addictions*, 10(1), 4–20. <https://doi.org/10.1556/2006.2021.00019>
- Sicilia, A., Alcaraz-Ibáñez, M., Paterna, A., & Griffiths, M. D. (2022). A review of the components of problematic exercise in psychometric assessment instruments. *Frontiers in Public Health*, 10, 839902. <https://doi.org/10.3389/fpubh.2022.839902>
- Sparkes, A. C. (1998). Athletic identity: An achilles’ heel to the survival of self. *Qualitative Health Research*, 8(5), 644–664. <https://doi.org/10.1177/104973239800800506>
- Sparkes, A. C., & Smith, B. (2014). *Qualitative research methods in sport, exercise and health. From process to product*. Routledge.
- Szabo, A. (2018). Addiction, passion, or confusion? New theoretical insights on exercise addiction research from the case study of a female body builder. *Europe’s Journal of Psychology*, 14(2), 296–316. <https://doi.org/10.5964/ejop.v14i2.1545>
- Szabo, A. (2025). Chasing a phantom dysfunction: A position paper on current methods in exercise addiction research. *International Journal of Mental Health and Addiction*, 25, 4600–4611. <https://doi.org/10.1007/s11469-024-01372-3>
- Szabo, A., Juwono, I. D., & Bulgay, C. (2025). Exercise addiction: A thematic analysis of self-reported cases for clinical insight and prevention. *International Journal of Mental Health and Addiction*, Advance online publication. <https://doi.org/10.1007/s11469-025-01549-4>
- Taylor, S., Eklund, R., & Arthur, C. (2023). Fear of failure in sport, exercise, and physical activity: A scoping review. *International Review of Sport and Exercise Psychology*, 16(1), 500–528. <https://doi.org/10.1080/1750984X.2021.1901299>
- Thualagant, N. (2016). Body management and the quest for performative health. *Social Theory & Health*, 14(2), 189–206. <https://doi.org/10.1057/sth.2015.28>
- World Health Organization. (2025). *International classification of diseases for mortality and morbidity statistics (11th revision, 2025-01)*. <https://icd.who.int/browse/2025-01/mms/en>.