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PSYCHIATRIC DISORDERS IN SWEDISH ELITE ATHLETES:  
PREVALENCE, COMORBIDITY AND LIFE STORIES





# Psychiatric disorders in Swedish elite athletes

Prevalence, comorbidity and life stories

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For all athletes.



# Abstract

The aim of this thesis is to explore psychiatric disorders in Swedish elite athletes.

The first study investigates a) the prevalence of symptoms of psychiatric disorders, b) the prevalence of mental health problems, defined by psychological suffering and impairment >2 weeks, c) the usefulness of sport-specific instruments in indicating clinical levels of psychiatric symptoms, and d) the life history of psychiatric disorders.

The second study describes psychiatric disorders and comorbidities in a clinical cohort of treatment-seeking elite athletes and high-performance coaches at two publicly funded outpatient psychiatric clinics in Stockholm and Malmö, Sweden.

The third study uses a narrative approach to understand the reasons why elite athletes with established psychiatric disorders choose to seek support and treatment outside – rather than within – their own sport environment.

The fourth study presents a poetic representation of one female elite athlete's experiences of living with, and seeking treatment for, an eating disorder.

In sum, 19.5% of Swedish elite athletes had symptoms of anxiety and/or depression, and 8.1% had previously received a psychiatric diagnosis. The lifetime prevalence of mental health problems was 51.7%, with 50% of onsets between ages 17 and 21. Sport-specific instruments generally reported fair diagnostic accuracy, but without sufficient sensitivity or specificity for practical use. Among elite athletes in psychiatric treatment, anxiety disorders were the most common (69%), followed by affective disorders (51%) and eating disorders (26%). Comorbidity was generally common between disorders.

Regarding help-seeking, the performance narrative – defined as a single-minded focus on performance that justifies, and even demands, the exclusion of any form of psychological weakness – forced elite athletes to adopt various impression management strategies to hide their psychological suffering. In closing, being invited to witness the embodied experiences of a female elite athlete struggling with and seeking treatment for an eating disorder reminds us that behind every prevalence number there is a person.



# Articles

- I. Åkesdotter, C., Kenttä, G., Eloranta, S., & Franck, J. (2020). The prevalence of mental health problems in elite athletes. *Journal of Science and Medicine in Sport*, 23(4), 329-335.
- II. Åkesdotter, C., Kenttä, G., Eloranta, S., Håkansson A., & Franck, J. (2022). Prevalence and comorbidity of psychiatric disorders among treatment-seeking elite athletes and high-performance coaches. *BMJ Open Sport & Exercise Medicine*, 8(1), e001264.
- III. Åkesdotter, C., Kenttä, G., & Sparkes, A.C. (2022). Elite athletes seeking psychiatric treatment: Stigma, impression management strategies and the dangers of the performance narrative. *In revision*.
- IV. Åkesdotter, C., Kenttä, G., & Sparkes, A.C. (2022). All the little pointers: A poetic representation of one female elite athlete's experience of living with and seeking treatment for an eating disorder. *Under review*.

## **Additional publications**

Håkansson, A., Kenttä, G., & Åkesdotter, C. (2018). Problem gambling and gaming in elite athletes. *Addictive behaviors reports*, 8, 79-84.



# Prologue

We are all influenced by people and places that have played an important role in our development. How we understand our social worlds is shaped by our experiences in life, norms and values, gender, sex, age, and theoretical understanding. In turn, this forms our preunderstanding of different topics and the questions we ask to increase our knowledge and understanding. As stated by Sparkes and Smith (2014, p. 19):

The connections between the self and study are often powerful forces in shaping many aspects of the research process, from the topic selection to the way data are reported and how these are interpreted.

A statement of reflexivity including my own background, intellectual history, and trajectory of research is therefore included. For me it was helpful to think about why I ask the questions I do, reflecting on strengths, but also limitations, based on my own background. Stopping and thinking about these questions can help increase your self-awareness and create the possibly to compensate for potential predispositions that might shed light on certain areas of research but ignore other important aspects. In sum, reflexivity involves thinking about how your own self and background affect your research and interpretation of findings.

My own journey in sport started within the Korean martial art of Taekwondo (ITF). At age 29 I retired from elite sport and found myself a bit “lost in transition”. My plan was always to become a world champion, but when I did, the path forward was not so clear. In the last years of my athletic career I went back to university, studying sport science and elite performance. Much of what I studied was directly applicable in my own training as an athlete and as a coach, and I really enjoyed building bridges between theory and practice.

At this point, performance psychology and exercise physiology emerged as great interests of mine. I thought my future work would revolve around training periodization and performance psychology. After some time, however, it became clear to me that many athletes who sought consolation also struggled with other challenges in life, including psychiatric disorders like different forms of anxiety, depression, and eating disorders.

Consequently, I chose to study cognitive behavioral therapy to also assist athletes in elite sport who suffer from clinical and subclinical mental health problems.

During my own career as an athlete, mental health was rarely discussed. To be honest, I don't think I actively thought much about it as a coach either. In hindsight, it's easy to see that many athletes were struggling, including myself at times as well as many of the athletes I was coaching, but this was not something actively talked about in elite sport, at least not within the martial arts world around the years 2000-2010. Later, it has become very clear to me that what we (choose to) see in elite sport depends on where we direct our attention.

My work life has always revolved around sport and physical activity, first as a physical education (PE) teacher and later within psychotherapy (cognitive behavioral therapy) specialized in working in elite sport. I have also worked in an applied sport science laboratory, and my initial scientific training was based within the natural sciences and the post-positivistic paradigm of research. During the last ten years I have combined my work in higher education as a teacher and PhD student with applied work as a sport psychology coach, for example during the Beijing 2022 Winter Olympics.

I believe my background in elite sport gives me an insider perspective that has helped me build alliances and validate different experiences in elite sport. In my qualitative work, many athletes expressed that they found it easy to talk to someone who understood their life and elite sport. But there are also challenges connected to studying the same context that has played a big part of your life for 15-20 years as an elite athlete. I know I may not naturally question some of the aspects in elite sport, as this context is normalized to me in many ways.

To counterbalance this potential predisposition, it was helpful to have a co-author who took the stance of a critical friend, as described by Sparkes and Smith (2014), helping me generate increased self-reflexivity and question some of these predispositions. As noted by others, there is often a reluctance to write about yourself in research; researchers tend to “shy away” from introducing themselves, and self-reflexivity is not commonly included in the write-up of research results. One explanation for this is that the traditional realist style of writing offers a greater opportunity to create impact and “pave the way to improving services” (Smith, 2006, p. 214).

I recognize myself in these thoughts, and it feels important that this project be about the athletes and not about me. At the same time, I see how my own background influences my interactions and interpretations as a researcher. For example, I'm a white, straight,

non-disabled female. During my career as an athlete I didn't suffer from any severe injuries, and I retired on my own terms. This might explain the broad focus in this thesis and why, for example, questions regarding the impact of injuries, sexuality, career transitions, or (dis)ability did not naturally emerged as research questions.

I trace the focus on psychiatric disorders back to my clinical training in psychotherapy. My initial research questions tended to be explorative and descriptive, as I wanted to gain a broad understanding of the mental health of elite athletes in Sweden. Working in elite sport and conducting research within the Swedish healthcare system has given me a broader understanding of the topography of psychiatric disorders in elite sport, and the organization of psychiatric treatment in Sweden. In the future, I would like to develop these insights and conduct more translational, explanatory, and predictive research.



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# List of abbreviations

ABQ	Athlete Burnout Questionnaire
ADHD	Attention deficit hyperactivity disorder
APA	American Psychological Association
ASRS	Adult ADHD Self-Report Scale
AUC	Area under the curve
AUDIT-C	Alcohol Use Disorders Identification Test
CAP	Creative analytical practices
CBT	Cognitive behavioral therapy
CRRRE	Culturally Responsive Relational Reflexive Ethics
CSAI-2	Competitive State Anxiety Inventory-2
DSM-5	Diagnostic and Statistical Manual of Mental Disorders
GAD	Generalized anxiety disorder
GAD-7	Generalized anxiety disorder 7-item scale
GHQ-4	General health questionnaire
GIH	Swedish School of Sport and Health Sciences
HPC	High-performance coaches
ICD-10	International Statistical Classification of Diseases and Related Health Problems
IOC	International Olympic Committee
IQR	Interquartile range
M	Mean value
MD	Medical doctor
MHP	Mental health problem
MI	Motivational interviewing
MINI	Mini International Neuropsychiatric Interview
OTS	Overtraining syndrome
PHQ-9	Patient Health Questionnaire 9-item scale
PSS-4	Perceived Stress Scale 4
PTSD	Post-traumatic stress disorder
ROC	Receiver operating characteristics
SMHAT-1	Sport Mental Health Assessment Tool
SMHRT-1	Sport Mental Health Recognition Tool



# Introduction

Forming the basis for this thesis are four studies conducted within the PhD program at the Swedish School of Sport and Health Sciences (GIH), Stockholm. This dissertation is motivated by a lack of research on elite athletes with established psychiatric disorders (as diagnosed by a licensed caregiver) and the need to include a more representative selection of elite athlete participants (Currie et al., 2021). A broad methodological approach was used, including a focus on lived experiences and narrative methodology to balance the focus on quantitative investigation based on the medical model of research (Pereira Vargas et al., 2021).

## Aims and outline

The overall aim was to explore psychiatric disorders in Swedish elite athletes. A range of questions based in both quantitative and qualitative methodology was examined. The specific research aims were:

*Study I:* To assess the point prevalence of symptoms of psychiatric disorders, the life prevalence of psychiatric disorders as diagnosed by a licensed caregiver, and the point and life prevalence of mental health problems (defined as psychological suffering and impairment >2 weeks) as well as age at onset and number of recurrent episodes among elite athletes. A second aim was to investigate the usefulness of existing sport-specific instruments in indicating clinical levels of psychiatric symptoms.

*Study II:* To examine the prevalence of and comorbidities between psychiatric disorders in a clinical cohort of elite athletes and high-performance coaches within psychiatric outpatient treatment.

*Study III:* To explore the reasons behind elite athletes seeking support and psychiatric treatment outside – rather than within – their sport environment.

*Study IV:* To invite witness and provide a deeper understanding of one female athlete's experiences of suffering from an eating disorder.

This is a thesis in sport science, focusing on psychiatric disorders in elite athletes. Balague et al. (2017 p. 51) have noted that “Sport science is still an ill-defined discipline”, including such diverse fields as biomechanics, physiology, psychology, and sociology under the same umbrella. In short, what defines sport science comes down to the subject of investigation (in the present thesis, elite athletes on a national team level of performance) (Loland, 2013), and sport has been defined as “all physical activity performed with the goal to promote physical and psychological health, recreation, athletic performance and esthetic experiences” (Larsson, 2013, p. 242).

This project takes advantage of the breadth of sport science by including perspectives from different research paradigms, aiming to explore the complex phenomenon of psychiatric disorders from different angles and perspectives.

# Background

Psychiatric disorders affect numerous individuals and families every year, including elite athletes. In the general Swedish population, 5.2% had a least one contact with specialized psychiatric care in 2020 (Wieselgren & Malm, 2021) and 16.5% of the population in the Swedish capital, Stockholm, utilized some form of psychiatric treatment in 2017 (Forslund, 2020).

Today, there is still confusion regarding basic concepts and definitions within mental health research, in both society and elite sport (Lundqvist & Andersson, 2021). Furthermore, what defines an elite athlete has also been debated (Williams et al., 2017).

## Elite athletes and psychiatric disorders

According to the Oxford Lexico Dictionary (2022), “elite” refers to “a select group that is superior in terms of ability or qualities to the rest of a group or society”. In sport science a number of definitions have been used for elite athletes, ranging from breaking the world record to competing at university level (Swann, Moran, & Piggott, 2015). Other definitions of elite athletes include (Williams et al., 2017, p. 1):

national or international level competitors, medal winners, Olympians, professional or semi-professional, worldclass, performing within some percentage of world records, experienced, training frequently or exceeding some measured physiological variable such as VO<sub>2</sub> max.

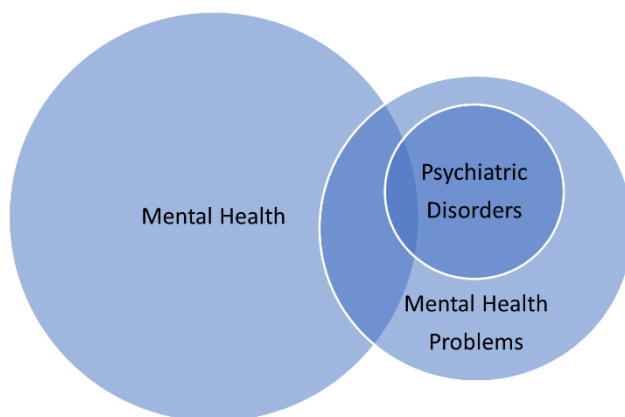
As different or poorly stated inclusion criteria limit comparisons between studies and hinder replicability, it is important to clearly define what constitutes an “elite athlete” in published research (Williams et al., 2017). This is especially important in the present thesis, as prior research on mental health and psychiatric disorders in elite sport has often included diverse samples of athletes (Reardon et al., 2019).

In this thesis, I operationalized *elite athletes* as athletes representing the Swedish national team. No definition is perfect; for example, the competition to represent the national team can vary greatly between different sports (Swann et al., 2015). Nevertheless,

the definition used here is functional as the inclusion criteria are easy to understand and replicate and are useful in finding relevant studies for comparison. Furthermore, most people, even those outside academia and elite sport, know what a national team is, making it easy to quickly gain a basic understanding of what is investigated here.

Likewise, regarding psychiatric disorders and mental health research, it is important to have a shared understanding of basic concepts in order to avoid confusion between, for example, researchers, media, the general community, and different stakeholders working in elite sport. This is challenging, as clear definitions and descriptions of theoretical perspectives are often missing in athlete mental health research (Lundqvist & Andersson, 2021).

To increase understanding, on behalf of the four big research funding agencies in Sweden (Formas, Forte, Vetenskapsrådet, and Vinnova) (Bremberg & Dalman, 2015) highlighted the need for a common ground in basic concepts describing mental health in research. They presented the following schematic illustration of the concepts of mental health, mental health problems, and psychiatric disorders:



*Figure 1: Schematic overview of basic concepts regarding mental health according to Bremberg and Dalman, 2015.*

*Psychiatric disorders* are syndromes that fulfill the inclusion criteria of an established diagnostic system, like the International Statistical Classification of Diseases and Related Health Problems (ICD-10) (World Health Organization, 2009) or the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association,

2013) after a clinical evaluation by a licensed caregiver. This is also the definition used to define what constitutes a psychiatric disorder in this thesis.

In general, the DSM-5 is used in the United States and the ICD-10 internationally (Bremberg & Dalman, 2015). In open psychiatric care in Sweden, the National Board of Health and Welfare, Socialstyrelsen, requires the use of ICD codes in patients' medical records and healthcare registers (Socialstyrelsen, 2019). The DSM system can be used for clinical assessments; thus, a linkage harmonizing the two systems has been developed within Swedish healthcare (Socialstyrelsen, 2019). Due to delays in translation, the ICD-10 is still in use in clinical practice even though a new version, the ICD-11, was released in 2019 (World Health Organization, 2019).

The ICD-10 defines a psychiatric disorder as “a clinically recognizable set of symptoms or behaviors associated in most cases with distress and with interference with personal functions” (World Health Organization, 2009). Importantly, a diagnosis is not provided solely based on questionnaires with established cutoff criteria. In healthcare, measurements should always be accompanied by a clinical evaluation by a licensed caregiver, such as a psychologist or psychiatrist, often using a standardized diagnostic interview. Thus, clinical assessments of psychiatric disorders always include clinical judgment (American Psychiatric Association, 2013).

Diagnostic systems, like the ICD-10 or DSM-5, have five main uses: “clinical uses; research uses; teaching and training uses; health statistics uses; and public health uses”, all important to consider during revisions (International Advisory Group for the Revision of ICD-10 Mental and Behavioral disorders, 2011, p. 88). One interesting difference between the ICD-10 and the ICD-11 is the latter's inclusion of how to use the system in different cultures (World Health Organization, 2019), potentially offering a future way to incorporate the use of a general diagnostic system with the culture and unique characteristics of elite sport.

One of the greatest strengths of standardized diagnostic systems is the facilitation of a common coding language in clinical assessment. However, the two leading systems, DSM and ICD, have not avoided criticism. At this point, a difference between the two systems is worth noting. The DSM system is criteria-based, meaning that a diagnosis is defined by its symptoms, described and evaluated independently (American Psychiatric Association, 2013). The ICD system also describes diagnostic criteria but uses narrative descriptions, or prototypes – in the form of short, collected descriptions of symptom manifestations, but without operational criteria (World Health Organization, 2009).

Importantly, both diagnostic manuals are developed to guide the diagnostic process based on the clinical presentation of symptoms and not on etiology.

As mentioned, the National Board of Health and Welfare in Sweden requires the use of ICD codes in medical records but allows the use of the DSM system for psychiatric clinical assessments. Criticism of the two systems, albeit applying to each of them respectively, can therefore to some extent be relevant in general as both are regularly used in Sweden for diagnostics within psychiatric treatment. Therefore, a more general discussion regarding the criticism of the present diagnostic systems and their implementation in society is presented.

A major criticism involves the risk of a pathologization of natural reactions to negative life events, for example diagnosing natural reactions following a loved one's death, bereavement, as a depressive disorder if the duration of symptoms extends two weeks or longer as specified in the DSM-5 (American Psychiatric Association, 2013; Horwitz & Wakefield, 2007). Lundqvist (2022) has also raised similar concerns regarding psychiatric disorders in elite athletes, arguing that symptoms fulfilling the inclusion criteria for a psychiatric disorder may in fact reflect a natural reaction to extreme situations in elite sport, or temporary fluctuations in mood caused by the effect of training periodization. Brinkmann (2014) has summarized the general risks connected to the overdiagnosis and pathologization of natural reactions, including:

- A skewed distribution of financial support due to the allocation of resources to treat natural reactions to life.
- A risk of decreasing resilience – caused by overamplifying human vulnerability, which can create a hypervigilance to observe symptoms of distress as pathological.
- A risk of creating diagnoses out of behaviors that are in fact adaptive, functional, and “healthy” responses to extreme external conditions and environments.

In addition, following the criticism that the present diagnostic systems risk creating psychiatric diagnoses out of natural reactions in life are the potential influences and profits made by the medical industry, or “big pharma”, which could benefit financially from this development (Frances, 2013). Yet another criticism includes diagnostic overlap on many different levels, including symptom manifestations, recommended treatment, and biological indicators (Adler, 2019).

From a broader perspective, despite potential limitations, these are the classification systems used in psychiatric treatment today. Applying the same diagnostic systems in research that are used to evaluate elite athletes seeking psychiatric treatment in Sweden or internationally also facilitates prevalence comparisons. In addition, some of the criticism that might be valid in general society may not be valid in elite sport. For example, elite sport can hardly be accused of overamplifying human vulnerability or a pathologization of extreme behaviors (Moreland, Coxe, & Yang, 2018). In fact, great stigma is connected to psychological suffering in elite sport, as it is in other contexts with strong masculine norms, such as the military (Castaldelli-Maia et al., 2019; Gulliver, Griffiths, & Christensen, 2012; Sharp et al., 2015) (for a more thorough discussion, please see the section on stigma later in this chapter).

In regard to financial interests, it is important to consider the potential economic benefits that come from certain structural systems. For example, the Johns Hopkins ACG system (Huntley et al., 2012) is in regular use within Swedish healthcare, where the number of diagnoses given to a patient can be reflected in the financial resources allocated to the clinic. However, this system was not in use at the two psychiatric clinics used for the recruitment of participants (Studies III and IV) and for a descriptive overview of a clinical cohort (Study II), and no monetary rewards were present in relation to the number of diagnoses, thus eliminating this potential bias.

In this thesis, the term *psychiatric disorders* is used to describe conditions fulfilling the inclusion criteria according to one of the main diagnostic systems in use, the ICD-10 (World Health Organization, 2009) or the DSM-5 (American Psychiatric Association, 2013), after a clinical evaluation by a licensed caregiver. This definition is governed by the biomedical model of research within medicine and psychiatry, which has been increasingly employed within mental health research in elite sport. This model is based on the philosophical assumption of realism, which relies on an assumption of the existence of an independent or external reality outside the human mind. In this view, a psychiatric disorder is seen as something real, measurable, and biological (Lundqvist & Andersson, 2021; Okasha, 2016; Sparkes & Smith, 2014).

Other researchers employ a relativistic or internal view of reality like (social) constructionism, employing a view that multiple and subjective realities exist as mental constructions (Brinkmann, 2017; Sparkes & Smith, 2014). In this view, what constitutes a psychiatric disorder is based on the societal norms that also help in informing how people construct their social worlds in relation to others (Sparkes & Smith, 2014). For example, in Sweden, homosexuality was listed as a psychiatric disorder until 1979. From a constructionist perspective, what we see and perceive as normal or as a disorder is con-

stantly changing (Stein, Palk, & Kendler, 2021). (For a deeper discussion see ontological and epistemological assumptions, see p. 46 of this thesis.) Lastly, in regard to adopting a definition of what constitutes a psychiatric disorder grounded in the medical model of research (like in this thesis), relativist ontologies do not have to reject that an objective reality exists outside and independent of ourselves (Sparkes & Smith, 2014). Therefore, in the qualitative studies in this thesis (Studies III and IV) I use the same definition of what constitutes a psychiatric disorder in recruitment, but use a narrative approach grounded in relativist ontology when exploring the experiences of living with, and seeking treatment for, psychiatric disorders.

*Symptoms of psychiatric disorders* is a term used in this thesis to describe research that uses validated questionnaires with established cutoff criteria to indicate when psychiatric symptoms reach clinical levels, but without a clinical evaluation by a licensed caregiver. The lack of distinguishing between symptoms and established disorders is a significant limitation in prevalence studies including elite athletes (Currie et al., 2021; Gouttebauge et al., 2019). Worth noting, the definition of *symptoms* used in this thesis is different from the one offered by the International Olympic Committee (IOC) (Reardon et al., 2019 p. 668):

...mental health disorders are typically defined as conditions causing clinically significant distress or impairment that meet certain diagnostic criteria, such as in the Diagnostic and Statistical Manual of Mental Disorders 5 (DSM-5) or the International Classification of Diseases, whereas mental health symptoms are more common, may be significant but do not occur in a pattern meeting specific diagnostic criteria and do not necessarily cause significant distress or functional impairment.

Taking a pragmatic view on the interchanging definitions within mental health research, the use of different definitions does not need to be problematic in individual work if the definitions employed are clearly stated. From a broader perspective, there is an urgent need in society, psychology, and sport science to reach consensus regarding the most common definitions used to describe different aspects of mental health (Bremberg & Dalman, 2015; Lundqvist & Andersson, 2021).

*Mental Health Problems* are defined in this thesis as “psychiatric disorders and symptoms of psychological distress having a substantial impact on quality of life, causing functional impairment in work, social activities and other important areas of life for two weeks or longer” (Åkesdotter et al., 2020, p. 330). There is no prior clear delamination of the boundaries between mental health problems and “normal” mental health in Swedish healthcare. In 2020, the National Board of Health and Welfare (Socialstyrelsen), the Public Health Agency of Sweden (Folkhälsomyndigheten), and the Swedish Association of Local Authorities and Regions (Sveriges Kommuner och Regioner) presented a

preliminary version of a memorandum on different concepts in use connected to mental health. It is clearly stated that this is a work in progress (Socialstyrelsen et al., 2020) that needs to be tested empirically. In their suggestion, as in the schematic overview by Bremberg and Dalman (2015) presented in Figure 1, mental health problems include both established psychiatric disorders and other forms of psychological distress. Due to the lack of delimitation in previous research, the research team created a functional definition of *mental health problems* (Study I). This definition reflects the schematic presentation by Bremberg and Dalman (2015), incorporating both psychiatric disorders and symptoms of psychological distress. In addition, it includes an explanation of when psychological distress in the present study (Study I) was perceived to reach the threshold of a mental health problem. This delimitation was based upon general definitions of psychiatric disorders that often include psychological distress (suffering) that constitutes grounds for diagnosis based on the person experiencing symptoms that have a substantial impact on quality of life (functional impairment) for two weeks or more (duration) (American Psychiatric Association, 2013).

The main aim of developing this functional definition was to establish an external border of what constitutes a mental health problem in this thesis (Study I) in order to ease replicability and comparisons with previous research.

*Mental Health* is a broad construct. According to Sweden's authorities connected to healthcare (Socialstyrelsen et al., 2020), *mental health* is an overarching concept that includes both *mental well-being* and *mental health problems*, the latter also including *psychiatric disorders*. The World Health Organization (2004) defines mental health as:

...a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stressors of life, can work productively and fruitfully, and is able to make a contribution to his or her community.

This definition has been criticized for being unspecific for research purposes, and for creating misunderstanding as it seems to identify positive feelings and functioning as key indicators of mental health when in fact "people in good mental health are often sad, unwell, angry or unhappy, and this is part of a fully lived life for a human being" (Galderisi et al., 2015 p. 231). Additional models used in elite sport research include, for example, single and dual continuum models of mental health and a holistic perspective that focuses on the whole person (Keyes, 2002; Lundqvist & Andersson, 2021). In Swedish healthcare, both dual continuum models, often described as two crossing dimensions (mental health and mental illness) ranging from high to low, and single continuum models, showing mental health and mental illness as the endpoints on a singular continuum, have been used (Socialstyrelsen et al., 2020).

As this thesis focuses on psychiatric disorders in elite athletes, investigating the mental health of elite athletes from a well-being perspective is outside its scope. As mentioned above, the focus here is on psychiatric disorders from a medical perspective that fulfill the inclusion criteria of an established diagnostic system and the lived experiences of athletes with such disorders, and not on broader perspectives of mental health.

## Medical perspective

From a medical perspective, the dominant view is that the etiology of psychiatric disorders is multifactorial, based on a combination of biological, social, lifestyle, and/or environmental factors (Barlow, Durand, & Hofmann, 2015; Bulik et al., 2006; Engel, 1977). The heritability of psychiatric disorders is usually high, with an explanatory factor of 40-90%. For example, the heritability measure for depressive disorders is about 0.43, for generalized anxiety disorder 0.51, and for eating disorders 0.42 (Rahm, 2018). Moreover, risk factors connected to the etiology of psychiatric disorders are mostly mediators and moderators rather than direct predictors (Kraemer et al., 2001), and in the process of the development of psychiatric disorders “the cumulative lifetime effect of multiple small-effect-size risk factors progressively increases vulnerability” (Arango et al., 2018 p. 591). As mentioned above, three main theories for explaining the development of psychiatric disorders can be identified in the medical literature (Rahm, 2018):

- **Biological:** Focuses on genetic influences as well as biomedical and chemical changes in the brain.
- **Psychological:** Includes the behavioristic perspective, in which symptoms are developed based on the function of different behaviors for the individual, often by reducing anxiety and discomfort within the short perspective. The behavioristic perspective also incorporates the notion that symptom manifestation can be the result of a lack of a skillset for handling, for example, certain social interactions. Psychodynamic research traditions are also included in the psychological perspective.
- **Social:** Focuses on how structures in society, for example within a family, at school, at work, or in a sport induce symptoms, for instance weight control behaviors within elite sport serving as a risk factor for developing an eating disorder.

Not only individual but also sport and environmental risk factors are therefore present in elite athletes (DeFreese, 2017; Reardon, 2022). A scoping review, based mostly on quantitative research (84% of included studies), summarized risk and protective factors in regard to mental health in research for the period 1998–2018 (Kuettel & Larsen, 2019). In their summary, risk factors for poor mental health in the sport-environmental domain included stigma, lack of social support, crisis transitions (retirement), and other sport-specific stressors such as deselection and performance pressure. This overview also highlights protective factors in the personal domain and how the (elite) sport environment can function as a protective and/or risk factor.

Increased stigma in elite sport, weight management strategies, performance difficulties, injuries, overtraining, organizational stressors, and crisis transitions, as well as sexual, physical, and/or emotional abuse and harassment within the sport environment has also been highlighted risk factors (Castaldelli-Maia et al., 2019; Cosh, McNeil, & Tully, 2021; Reardon et al., 2019; Stambulova, 2017; Timpka et al., 2022; Timpka et al., 2020). One risk factor closely connected to the athletic environment entails various forms of harassment and abuse (Mountjoy et al., 2016; Timpka et al., 2019). This research clearly highlights the need to acknowledge the social surroundings of each athlete and the importance of ensuring that all athletes perform their sport within a safe environment (Rice et al., 2022).

In the personal domain, risk factors from the overview by Kuettel and Larsen (2019) include ineffective coping, maladaptive personality traits and a strong athletic identity, life stress, negative life events, low social support, and factors associated with poor eating, general mental health, injury, overtraining, and the female athlete triad. Other risk factors found in research with participants from the general population are genetic factors, low effortful control, executive functioning deficit, maternal depression, high neuroticism, negative affectivity and financial concerns (Lynch et al., 2021; McLoughlin et al., 2021; Pensgaard, Oevreboe, & Ivarsson, 2021; Pettersson, Larsson, & Lichtenstein, 2016; Sullivan, Daly, & O'Donovan, 2012).

One etiological model that includes both environmental and genetic influences in general psychology is the *stress diathesis model* (Ingram & Luxton, 2005). In this model, a person's individual vulnerability (including genetic predispositions and earlier experiences in life) and stress contribute to the development of psychopathology. Based on the inclusion of individual vulnerability, this model helps in explaining why some individuals may develop a psychiatric disorder while others do not, even though they experience the same sources of stress, which is something other models that emphasize stress as a key cause of psychiatric disorders struggle with (Monroe, Slavich, & Georgiades,

2009). Exposure to stressors in connection to mental health has also been addressed in elite sport (Arnold & Fletcher, 2012), and future researchers are advised to move beyond stress as a sole cause to also include a broader biopsychosocial perspective when investigating the impact of various stressors on performance and health in elite athletes (Lundqvist & Andersson, 2021). Overall, the interplay between different factors of individual vulnerability and stress is complex, but the *stress diathesis model* is commonly used and is seen as a helpful pedagogic tool in Swedish healthcare for explaining to patients how different factors can interact in the development of psychiatric disorders (Rahm, 2018).

Another model focused on environmental impact is Bronfenbrenner's ecological systems theory, which addresses development from a broader perspective "that focuses on the progressive accommodation, throughout the life span, between the growing human organism and the changing environments in which it actually lives and grows" (Bronfenbrenner, 1977, p. 513). Here, (child) development is seen as a complex interplay of relationships influenced by different environments in the child's life, ranging from the closest family members to school to broader cultural values (e.g., the micro/meso/macrosystem). A similar perspective is presented in the holistic ecological approach in sport (Henriksen et al., 2020), which incorporates an ecological lifetime perspective in elite sport research (Stambulova, Ryba, & Henriksen, 2020). Importantly, this thesis is based on the medical model of psychiatric disorders and its focus is directed more toward prevalence and lived experiences than etiology.

## Narrative perspective

In narrative research, the focus is on stories (Riessman, 2008). When we tell stories about our lives, these are "composed for particular audiences at moments of history, and they draw on taken-for-granted discourses and values circulating in a particular culture" (Riessman, 2008, p. 3). There are different definitions of the boundaries of what is a narrative and what is not, but despite the differences most descriptions include contingency in the form of consequential linking in what is happening and the individual's personal understanding of the events. In society, groups (and individuals) tell stories to portray who and what they are, as well as to clarify what they "are not". In sum, narrative research focuses on what we can learn from these stories.

Frank (2013, p. xi) concludes that "to tell one's own story, a person needs other stories". Stories, for example regarding personal experiences of illness or suffering, are our own, "but what seems worth telling, how to format the story, and how others make sense of

the story all depends on shared ways of narrating illness” (p. xiv). For example, in the accounts of physical illness and suffering, Frank (2013) describes three different narrative types in the form of general storylines underlying the plot. The *restitution narrative*, the most common narrative in medicine and illness stories, goes “Yesterday I was healthy, today I’m, sick, but tomorrow I’ll be healthy again” (p. 77). The opposite of the restitution narrative is the *chaos narrative*, in which life never gets better. These stories are often harder to listen to, as a “good” ending in the form of restitution is the most preferred outcome in society (p. 97). Lastly, *quest narratives* describe how suffering from an illness can be told as journey in which people develop and gain new insights about themselves and the world (p. 115). Research involving narratives is a way of “thinking *with* stories” (p. 23) that can help others recognize patterns and gain a deeper understanding of what kind of stories it is that circulate and how these stories in turn can proclaim a certain way of being for those who adhere to them. For example, the narrative types described by Frank have also been found in the life stories of athletes with spinal cord injuries (Smith & Sparkes, 2004).

Regarding psychiatric disorders, many perspectives have been debated in research and clinical practice, including for example behaviorism, psychoanalysis, and cognitive theory. Nevertheless, Adame and Hornstein (2006) noted that first-person accounts of the subjective experiences of living with psychiatric disorders were largely missing for a long time: “It is as if people’s personal constructions of their lived experiences have not seemed relevant to the field” (p. 135). They also point out that stories are not only something people tell about their life but also have the power to “do” things for those who adhere to them (p. 136):

When an illness (either physical or mental) interrupts or shapes a person’s life story, narrative order and a sense of self are often lost in the chaos and unpredictability that the illness brings. The genre of “illness narratives” reveals how people reclaim narrative order and reshape their sense of self in relation to the illness.

Frank (2013) uses the metaphor of a car that needs to be “fixed” to describe the general narrative in medicine when someone is affected by a (physical) disease like cancer. Adame and Hornstein (2006) suggest that a virus infecting a computer that needs to be “rebooted” can act as the equivalent metaphor for psychological distress and psychiatric disorders in medicine. In both cases, the metaphors point at the person (and body) as a machine that needs to be fixed and/or rebooted to restore normal functioning. Personal accounts of living with different injuries, diseases, or psychiatric disorders broaden this picture. According to Frank (2013, p. 18):

Telling stories of illness is the attempt, instigated by the bodies disease, to give voice to an experience that medicine cannot describe.

Or, as expressed by Leitner in 1985 (Adame & Hornstein, 2006, p. 137), it is hard to “foster a therapeutic relationship with a neurotransmitter”. A focus on personal accounts and stories outside the medical model in sport psychology have also been suggested as an important area to further explore in research (Pereira Vargas et al., 2021). Likewise, in general psychology, personal accounts and narrative studies of living with psychiatric disorders can play an important role in educating clinicians and opening up dialogues between those who suffer and the different stakeholders working to support them (Rhodes & De Jager, 2014). Here, “metaphors of the body and mind as a machine are replaced by stories of individual lives, each with a unique experience of suffering and healing” (Adame & Hornstein, 2006, p. 137).

One difference between narratives of physical illness and those of psychiatric disorders is that the former often make a clear distinction between the individual and the body. It is the body, not the person, that is broken and in need of repair when it comes to physical injuries and diseases. For example, people usually say “I have cancer” or “I have a twisted ankle”. With regard to psychiatric disorders, on the other hand, it is more common to blend the person and the disorder, for example stating “He’s an alcoholic” or “I’m depressed”. A psychotherapist describing her own experiences of developing a depression describes the potential risk involved in confusing the individual with the diagnosis (Manning, 1994, p. 170):

Calling someone ‘a manic-depressive’ reduces a multi-faceted human being to a diagnosis and lulls us into a false sense that those words tell us who the person is, rather than only telling us how the person suffers.

A focus on narratives can therefore add an important perspective to mental health research in elite sport. One example of using a narrative perspective when analyzing mental health in elite sport comes from Douglas and Carless (2011), who adopted this methodology to focus on identity development, well-being, and trauma in professional sport. They investigated how the life stories of elite athletes can unpack the ways in which the culture of sport interacts “not only with mental health, but also the development, identity and life trajectories of elite and professional sportspeople” (Douglas & Carless, 2015). In their work they also identified different narrative types that structured elite athletes’ life stories: *performance*, *discovery*, and *relational* narratives. The narrative that was found to inform the majority of elite athletes and to be the “master” narrative in elite sport was the *performance narrative* (Douglas & Carless, 2015, p. 73):

It is a story of single-minded dedication to sport performance that justifies, and even demands, the exclusion or relegation of all other areas of life and self. Performance stories provide illustrations of how and why, for some athletes at least, ‘sport is life and life is sport.’

This story is upheld not only by the athletes themselves but also by other stakeholders in sport and the media, attributing elite athletes who follow this narrative protectory as some kind of superhumans who are immune to psychological suffering and disorders (Douglas & Carless, 2015; Reardon & Factor, 2010).

## Previous research

Psychiatric disorders are as old as mankind and affect numerous individuals and families every year, including elite athletes (Gouttebauge et al., 2019; Porter, 2003; Reardon et al., 2019; Rice et al., 2016). Some highly successful elite athletes who have gone public with their experiences of psychiatric disorders include Naomi Osaka (tennis player suffering from depression), Robin Lehner (ice hockey player living with a bipolar disorder and nominated as the best goalkeeper in the NHL), and Jenny Risveds (Olympic champion in mountain bike with a history of suffering from depression and an eating disorder during her career).

Modern sport and sport clubs developed in Britain during the eighteenth century (Szymanski, 2008), while in Sweden the “sportification” of sport, accelerating the transition from a focus on health toward one on elite performance, intensified after 1960 with increased financial investments, commercialization, and media attention (Ljunggren, 2020). The Olympic motto *Citius, Altius, Fortius* (Faster, Higher, Stronger) expresses the constant striving for improved performance that is the backbone of elite sport.

The training process would likely look very different for elite athletes if the goal was to maximize health benefits instead of performance outcomes (Smith, 2003). One example highlighting this extensive focus on performance can be seen in an article by longtime sport psychologist for the United States Olympic Committee McCann (2008), with the telling title *At the Olympics, everything is a performance issue*, describing his experiences from working with elite athletes suffering from depression, eating disorders, and suicidal ideation during the Olympic Games.

In 2016 more than a billion people, equaling about 16% of the world’s population, suffered from a psychiatric or an addictive disorder (Rehm & Shield, 2019). Psychiatric disorders and symptoms of disorders were long given limited attention in elite sport

(Reardon & Factor, 2010); at the 2014 and 2016 Olympics only 14.7% of the international sport federations participating in the games reported any forms of programs, guidelines, or research targeting the mental health of their athletes (Mountjoy & Junge, 2013).

Treatment for psychiatric disorders in Sweden can be obtained in various settings. The most common is outpatient treatment, for instance seeing a licensed psychologist with a private practice, talking to a licensed sport and clinical psychologist, or visiting a clinical psychiatric service within the public healthcare system. Some patients with more severe symptoms may need inpatient treatment; this care can sometimes be given on a mandatory basis if they pose a danger to themselves or others (American Psychiatric Association, 2015).

The evidence-based psychotherapeutic treatment used in the general population, such as cognitive behavioral therapy (CBT) and motivational interviewing (MI), is also recommended for elite athletes (Herzog, Eiring, & Bartley, 2022). However, more treatment studies are needed (Ekelund, Holmström, & Stenling, 2022) as the “literature regarding psychotherapeutic interventions in elite athletes is sparse and largely anecdotal” (Stillman et al., 2019, p. 1). In addition to their clinical training, those who work with elite athletes need to understand the unique characteristics and challenges associated with the development and treatment of psychiatric disorders in elite sport (Stillman & Farmer, 2021), for example distinguishing between depression and overtraining (Reardon, 2021), or being mindful of medical treatment that may be classified as doping.

## Prevalence

An exponential flow of original research articles addressing prevalence have been published in the last ten years. One consistent conclusion is that symptoms of psychiatric disorders, and established psychiatric disorders, in elite athletes broadly mimic the numbers in the general population (Moesch et al., 2018). For example, this is found in research involving affective and anxiety disorders (Reardon, 2021). It has been suggested that elite athletes may be at more risk of developing or suffering from certain disorders such as eating disorders (Sundgot-Borgen & Torstveit, 2003) and ADHD (Han et al., 2019).

One challenge in interpreting results from previous research is that different measurements and populations are used. For example, some studies, like Schaal et al. (2011), include prevalence numbers of psychiatric disorders, evaluated through diagnostic in-

interviews by a licensed caregiver. In this thesis, Study II (Åkesdotter et al., 2022) describes the diagnostic assessments of a clinical cohort of elite athletes. However, most previous prevalence research is based on questionnaires measuring symptoms of disorders (Gouttebarga et al., 2019). For a broader, recent overview of psychiatric disorders in elite athletes, see Reardon (2022). Below is an account of some original studies and reviews that are of interest to refer to in comparison with the results obtained from Studies I and II in this thesis (Åkesdotter et al., 2020; Åkesdotter et al., 2022).

One study, which is not recent but stands out regarding its sample size (n=2067) and because psychiatric disorders are assessed by licensed caregivers, is a study with French elite athletes by Schaal et al. (2011). Even though it uses diagnostic interviews, this study notes a difference in the number of diagnoses made if the evaluation was performed by a psychiatrist vs. a psychologist. In fact, even though universal diagnostic systems are used in this study just as in clinical practice, e.g. DSM-5 and ICD-10 (American Psychiatric Association, 2013; World Health Organization, 2009), it is important to remember that a great deal of psychiatric assessments still come down to clinical judgment (Lundqvist et al., 2022). With this in mind, a result of interest from Schaal et al. (2011) is the 17% overall prevalence of at least one psychiatric disorder within the last six months (females 20.2%, males 15.1%). The corresponding lifetime prevalence of a psychiatric disorder was 25.1% (females 30.8%, males 22.1%). This study also provides six-month prevalence data for some of the most common diagnostic groups found in elite athletes.

*Table 1 Summary of six-month prevalence of psychiatric disorders in French elite athletes from Schaal et al., 2011.*

	<b>Overall</b>	<b>Female</b>	<b>Male</b>
<b>At least one anxiety disorder</b>	8.6%	11.3%	7.1%
<b>At least one affective disorder</b>	3.6%	4.9%	2.6%
<b>At least one eating disorder</b>	4.9%	6.5%	4%
<b>Alcohol misuse</b>	20.9%	17.4%	22.8%

A systematic review and meta-analysis (Gouttebarga et al., 2019) of symptoms and established psychiatric disorders in current elite athletes, comprising results from 2,895 to 5,555 athletes (depending on symptoms investigated), found a point prevalence of 34% for symptoms of anxiety/depression and 19% for alcohol misuse.

In regard to international studies in countries near Sweden, research investigating the mental health of elite athletes has been published in the other Nordic countries. In Denmark, Kuettel, Pedersen, and Larsen (2020) measured the prevalence of symptoms of

psychiatric disorders in 612 elite athletes. The point prevalence of moderate and severe levels of anxiety was 13.9% (females 20%, males 9.6%) and for depressive symptoms the corresponding number was 21.1% (females 27.9%, males 17.7%). A prevalence study in Norway including 378 elite athletes (Pensgaard et al., 2021) reported a total prevalence of symptoms of anxiety of 9.3% (females 11.3%, males 7.8%), and of depressive symptoms in 22.5% overall (females 25.8%, males 20.1%). Clinical levels of eating disorder symptoms were found in a total of 4.5% (females 8.8%, males 1.4%). Importantly, this study was conducted during the COVID-19 pandemic, which created unique circumstances that may have influenced the results.

Outside the Nordic countries, some examples of prevalence studies in Europe include a study with elite athletes from the United Kingdom (Foskett & Longstaff, 2018), which found a 47.8% prevalence of anxiety/depressive symptoms. Similar results have also been found in Dutch Olympic athletes (Gouttebauge et al., 2017), with a 45% prevalence of anxiety/depression.

The mental health of Australian elite athletes has also been investigated. One early study by Gulliver et al. (2015) found a 27.5% prevalence of depressive symptoms, 22.8% of eating disorder symptoms, and 14.7%, 7.1%, and 4.5% respectively of signs of social anxiety, generalized anxiety, and panic disorder. A more recent study with elite athletes measuring psychological distress found a 35% prevalence of “probable case-ness” likely fulfilling the diagnostic criteria for at least one psychiatric disorder (Purcell et al., 2020).

Shifting focus to Canada, in Canadian elite athletes preparing for the 2020 Olympic Games, 41.4% met the cutoff criteria for symptoms of at least one psychiatric disorder, 31.7% for depressive symptoms, 18.8% for moderate to severe general anxiety, and 8.6% were at risk of suffering from an eating disorder (Poucher et al., 2021).

Outside original research and reviews, no less than 13 mental health position statements has been published in or before 2021 (Vella et al., 2021). These focus on mental health monitoring, the treatment of psychiatric disorders in athletes, the importance of tailoring mental healthcare to the sport-specific context, guidelines, referral policies, and confidentiality. Other aspects addressed include the promotion of interventions targeting mental health literacy, employing strategies to reduce stigma, and screening programs to detect early signs of psychiatric disorders, as well as fostering psychologically safe environments and having a policy of zero tolerance for any kind of hazing or sexual, physical, or emotional abuse (Vella et al., 2021).

## Age and mental health

In Sweden, the public health authority used the General Health Questionnaire (GHQ 4) until 2018 to measure the prevalence of impaired mental health in the general population. This measure has a good overall capacity to identify affective or anxiety disorders (4-week prevalence) compared to diagnostic interviews (Lundin et al., 2016). In the latest available cross-sectional data from 2018, 17% of the Swedish population had impaired mental health (Folkhälsomyndigheten, 2020). Proportions divided by age groups found the highest prevalence, 25%, in the youngest age group of 16- to 29-year-olds, corresponding to the peak performance age of many elite athletes (Allen & Hopkins, 2015). Impaired mental health seems to diminish with older age in Sweden, with prevalence rates of 20% among 30- to 44-year-olds, 14% among 45- to 64-year-olds, and 9% among 65- to 84-year-olds (Folkhälsomyndigheten, 2020). In Sweden, the span of 12–19 years of age is labeled *adolescence* and the span of 20–30 years of age as *young adulthood*. In English literature, the span of 18–29 years of age has also been described as *emerging adulthood* (Arnett, 2007; Hwang, Frisé, & Nilsson, 2018) and as “the age of identity explorations, the age of instability, the self-focused age, the age of feeling in-between and the age of possibilities” (Arnett, 2007, p. 69).

We continue to develop throughout our lifetime, but most major changes occur before we reach our thirties. Adolescence and young adulthood is an important time for our physical, cognitive, and socioemotional development. *Physical development* includes both internal and external changes to our bodies, like gaining weight and growing taller. *Cognitive development* describes how our mental processes, which we use to understand ourselves and interpret our surroundings, develop. *Socioemotional development* describes the process of finding one’s place in society and one’s own identity (Hwang et al., 2018).

In a large meta-analysis of 192 epidemiological studies (Solmi et al., 2022), the prevalence of individuals in the general population diagnosed with at least one psychiatric disorder was 34.6% before age 14, 48.4% before age 18, and 48.8% before age 25, with the peak age at onset of around 14.5 years (IQR 11-34) (Solmi et al., 2022). Thus, the peak performance age of most active elite athletes is in itself a time of life when one is especially vulnerable to developing a psychiatric disorder. Previous research (Caspi et al., 2020; Schaefer et al., 2017) suggests that most people will fulfill the diagnostic criteria for a psychiatric disorder at some point before midlife (87%), and that the most common mental health history involves suffering from disorders that have a “relatively brief, episodic course” (Schaefer et al., 2017, p. 6). Society might therefore need to rethink enduring mental health as the normal course in life.

In young elite athletes, Rosenvinge (2018) found that psychological distress was significantly lower in first-year elite athlete students at Norwegian high schools compared to non-athlete control students, indicating that these athletes do not seem to be more prone to experience psychological distress. As summarized by Xanthopoulos et al., (2020) youth sport participation has been associated with mental health benefits, for example self-efficacy, psychological resilience, and a sense of belonging.

At the same time, the elite sport environment may be a risk factor. For example, sport-related stressors due to competitive demands and a culture in which young elite athletes learn to “suck it up” and ignore signs of psychological suffering may contribute to the development of certain disorders and hinder help-seeking (Walton, Rice, & Purcell, 2022; Xanthopoulos et al., 2020). In addition, research investigating career transitions has found that 80% of athletes experience the transition from junior to senior as a crisis (Stambulova, 2017). At the moment, health outcomes in elite sport seem to largely come down to the contextual factors and climate surrounding each individual in his or her sport (Walton et al., 2022).

## Sex differences

According to the World Health Organization, “sex refers to the biological characteristics that define humans as female or male” while “gender refers to the characteristics of women, men, girls and boys that are socially constructed” (World Health Organization, 2022a, 2022b). Both these definitions have been criticized for being too simplistic and dichotomous, and it has been suggested that it would be more useful in health research to conceptualize gender and sex as continuous variables with an individual focus (Hammarström et al., 2014).

Nevertheless, in this thesis the terms *sex* and *sex differences* are used in order to be consistent with previous research, and as they are the preferred terms in the sport medical journals in which Studies I and II are published (Åkesdotter et al., 2020; Åkesdotter et al., 2022). The division into sex-specific competition along binary lines within elite sport is also based on biological presentations of sex (e.g., testosterone levels, etc.) (Clark et al., 2019).

Females are generally overrepresented regarding many psychiatric disorders, including eating, affective, and anxiety disorders, compared to males in both the general population and elite sport (Henriksen et al., 2019; Kuettel & Larsen, 2019; Reardon et al., 2019; Rehm & Shield, 2019; Riecher-Rössler, 2017; Schaal et al., 2011; Åkesdotter et

al., 2020). For example, in France, 20.2% of female elite athletes were diagnosed with at least one psychiatric disorder compared to 15.1% of the males (six-month prevalence) (Schaal et al., 2011).

While sex differences in psychiatric disorders are one of the most stable findings in psychiatric research, at the same time there is a lack of research attempting to explain the causes behind these results, both in the general population and in elite sport (Perry et al., 2021; Riecher-Rössler, 2017). It is recommended that sex and gender differences be addressed more in both psychiatric research and practice. Potential explanations for this gender gap in the general population and elite sport are both sex-related (e.g., biological) and gender-related (e.g., gender inequality and an increased risk among females of experiencing negative life events) (Howard et al., 2017; Walton et al., 2021).

In female elite athletes, a recent scoping review found that a large proportion of previous research has investigated eating disorders and disordered eating in “lean-physique” and endurance sports (Perry et al., 2021). As “female athletes likely have specific issues and difficulties that may differ from those in male athletes”, more research is needed to untangle specific sex-related risk factors (Perry et al., 2021, p. 15). Regarding male athletes, a narrative review by Souter, Lewis, and Serrant (2018) noted that eating disorders exist and need to be recognized, and that their prevalence in this group is higher than in males in the general population. Furthermore, substance use disorders are more common in male athletes. The increased stigma regarding male athletes displaying any form of weakness, including psychological suffering, is also recognized, and it is recommended that male athletes be encouraged to “discuss their emotions, concerns and anxiety” (p. 6), for example when undergoing treatment for injuries. In sum, more research targeting specific risk factors for male and female athletes is urgently needed.

## Training and mental health

From a health perspective, recreational sport activities and physical exercise are connected to reduced symptoms of psychiatric disorders like anxiety, stress, and depression (Fossati, 2021; Mikkelsen et al., 2017). At the same time, extensive exercise (such as the training regime employed by many elite athletes) can result in detrimental effects on one’s mental health, and in some cases an overload in combination with insufficient recovery, resulting in burnout (Kenttä & Hassmen, 1998; Raglin, 1990; Ströhle, 2019). A distinction has therefore been made in health benefits between recreational and elite/competitive sport, as the latter, through its structure and training, may in itself impose certain health risks (Fossati et al., 2021).

It has long been known that athletes experience a unique range of stressors associated with their training, for example overtraining, burnout and sport injuries as well as internal and external pressures to perform, such as performance anxiety, media pressure, etc. (Rice et al., 2016; Ströhle, 2019). A dose–response relationship between physical activity, training, and elite sport participation on the one hand and health benefits on the other has been described (Bull & Bauman 2014). In this model, increasing benefits are gained from increasing amounts (in terms of frequency, duration and intensity) of activity, up to the level of training for (elite) sport, where health benefits level out while risks increase. Importantly, these relationships can be more complex, as mental health may influence physical activity and performance, at the same time as physical fitness may impact mental health. A multidirectional influence between type of exercise activity, sport participation, and mental health effects has therefore been suggested (Fossati et al., 2021; MacIntyre et al., 2017).

## Stigma and help-seeking

Even though it has become more common to share experiences of psychiatric disorders, and these accounts now regularly occur in the media, negative perceptions still prevail. As expressed by Hinshaw (2010, p. xi):

Concealment remains a major means of coping, as history of mental illness is near the bottom of the list of life experiences most people would ever wish to divulge.

One way to describe stigma is “a deep, shameful mark or flaw related to being a member of a group that is devaluated by the social mainstream” (Hinshaw, 2010, p. xi). To create or maintain a stigma, the beholders need to be in a position of social power indicating that they are “right and healthy” (compared to wrong and sick). Related terms include stereotyping, prejudice, and discrimination. Overall, stereotypes are beliefs about a group as a whole that dismisses individual differences. Prejudice is a rigid form of stereotype, while discrimination refers to the unjust treatment of people based on their belonging to a specific group (Hinshaw, 2010). In sum, stigma is a mark of shame based on degradation for being “a member of a devalued social group” (p. 26).

As noted by Goffman (1963, pp. 5, 7, 13), based on stigma “we tend to impute a wide range of imperfections based on the original one...”, and over time “the stigmatized tend to hold the same beliefs about identity as we do...”. In elaboration, not all attributes that are perceived as undesirable lead to stigmatization, “but only those which are incongruous with our stereotypes of what a given type of individual should be”. In

sport, elite athletes are expected to be strong both physically and mentally, and the media “glorify those who succeed and are critical of those who fail” (Bauman, 2016, p. 135). Reardon and Factor (2010) have noted that the idealization of elite athletes can contribute to a perception of them as immune to any form of psychological weakness and vulnerability. In turn, this can help in explaining why many athletes do not show any form of psychological vulnerability based on a fear of being judged to be “mentally weak”, which can result in stigmatization by other athletes and coaches (Gulliver et al., 2012; Moreland et al., 2018).

Two types of stigma have been described in the literature: social stigma and self-stigma. Social stigma involves the negative stereotypes in society regarding those who suffer from psychiatric disorders. Self-stigma is the internalization of these negative stereotypes by the person, which often results in feelings of shame and low self-esteem (Haddad & Haddad, 2015). In high income countries like Sweden, 35-50% of those suffering from serious psychiatric disorders do not receive treatment (World Health Organization, 2021). A systematic review found that stigma was an important barrier to help-seeking in the general population (Clement et al., 2015), and in elite sport stigma is the main reason for not seeking psychiatric or psychological treatment (Gulliver et al., 2012; Moreland et al., 2018). The same heightened stigma regarding help-seeking has also been found in other contexts with a strong masculine norm, such as the military (Ramaeker & Petrie, 2019; Sharp et al., 2015).

Previous research also indicates that elite athletes may be more reluctant to seek psychiatric treatment compared to the general population (Castaldelli-Maia et al., 2019; Wahto, Swift, & Whipple, 2016). Besides stigma, other barriers for elite athletes include a lack of financial resources, social support, awareness of available resources, personal awareness (poor mental health literacy), and mental health professionals (Fontana, Jeckell, & Creado, 2022).

Consequently, those who suffer from psychiatric disorders may go without professional help, which can worsen the prognosis for some conditions and cause unnecessary suffering and distress (Haddad & Haddad, 2015).

## Common psychiatric disorders in elite sport

In Sweden, every third patient seeking treatment in primary care, for any kind of health problem, was found to suffer from symptoms of depression, anxiety, or hazardous alcohol use (Nordström & Bolund, 2008). Elite athletes are not immune to psychiatric dis-

orders (Reardon & Factor, 2010) and have broadly been found to suffer from such disorders to the same extent as the general population (Moesch et al., 2018; Reardon et al., 2019). Here follows a short description of some of the most common psychiatric disorders that have previously been investigated in elite athletes.

#### *Attention deficit hyperactivity disorder (ADHD)*

ADHD develops in childhood but impacts the life and functioning in adults as well, often resulting in difficulties in school, social, and work-related contexts. Symptoms include inattention, hyperactivity, and impulsivity. In teens, symptoms can come across as the young athlete being fidgety, impatient, or lost in her/his own thoughts, having a hard time focusing, and being restless and impatient. Adults with ADHD often have difficulty with planning and organization, as well as experiencing inattention, impulsivity, and restless feelings (American Psychiatric Association, 2013, 2015).

The average prevalence of ADHD in the world's adult population has been found to be 2.8%, with a higher prevalence of 3.6% in higher-income countries (like Sweden) compared to lower income countries (Fayyad et al., 2017). In Sweden, 52.6% of patients with an ADHD diagnosis were found to have at least one comorbidity, most often an anxiety disorder, a substance use disorder, or an affective disorder (Polyzoi et al., 2018). In the adult population in Sweden within psychiatric care, the prevalence of ADHD has been found to range from 6.9 to 28.8% (Gerhand & Saville, 2021). In elite athletes, the prevalence of ADHD can be as high as 7–8% (Han et al., 2019) and potentially even higher in young athletes (Poysophon & Rao, 2018).

#### *Affective (depressive) disorders*

These disorders are characterized by sadness, low mood, feelings of emptiness, and/or a loss of interest and pleasure in things that those suffering from depression used to enjoy. They may also include sleeping disturbances (e.g., insomnia or sleeping too much), changes in appetite, gaining or losing weight, an inability to stay focused, feelings of worthlessness and guilt, affected speech and movements, feelings of restlessness, and suicidal ideation. The presentation of symptoms varies between patients. This group of disorders includes, for example, major depressive disorders, premenstrual dysphoric disorders, and persistent depressive disorders (American Psychiatric Association, 2013, 2015).

For the general population in Sweden, the point prevalence of clinically significant symptoms of depression was found to be 10.8% (females 12.9%, males 8.3%) (Johans-

son et al., 2013). There is still debate over whether depressive symptoms are more common in elite athletes compared to the general population (Tahtinen, Shelley, & Morris, 2021). A systematic review found clinically significant symptoms of depression ranging from 6.7–34.0% in high-performance athletes (Golding, Gillingham, & Perera 2020). Questionnaires for evaluating symptoms of depression are most used in research, and more studies including diagnostic interviews are requested (Gorczyński, 2022; Gorczyński, Coyle, & Gibson, 2017). In the yearly psychiatric evaluations of French elite athletes, which use diagnostic interviews, 3.6% of respondents had suffered from at least one depressive disorder (females 4.9%, males 2.6%) within the previous six months (Schaal et al., 2011).

### *Anxiety disorders*

These disorders include symptoms of fear or extreme worry that affect the patient's daily functioning. Common anxiety disorders include panic disorder, generalized anxiety disorder (GAD), specific phobia, and social phobia. Living with an anxiety disorder often affects a person's life due to extensive worrying that can limit their life, and their daily choices and freedom of actions can be substantially impacted and hindered by their fears (American Psychiatric Association, 2013, 2015).

In Sweden, the point prevalence of clinically significant symptoms of anxiety has been estimated to be 14.7% (females 17.9%, males 10.7%) (Johansson et al., 2013). The yearly psychiatric evaluations of elite athletes in France found an 8.6% (females 11.3%, males 7.1%) prevalence of at least one anxiety disorder within the previous six months (Schaal et al., 2011). Athletes have been found to be as prone to suffer from clinical symptoms of anxiety, and established anxiety disorders, as the general population (Reardon et al., 2021; Rice et al., 2019). Within the elite athlete population, higher levels of anxiety symptoms have been found in athletes who were dissatisfied with their career, female athletes, and those suffering from musculoskeletal injury (Rice et al., 2019).

### *Trauma and stress disorders*

In these types of disorders, symptoms are caused by traumatic events creating strong emotions like pressure, fear, guilt, shame, and anger, often overwhelming the person. These disorders include post-traumatic stress disorder (PTSD) and acute stress disorder. Adjustment disorder is another stress-related disorder often caused by major stressful changes in life (American Psychiatric Association, 2013, 2015).

In the general population of the United States, a lifetime prevalence of 8.3% and a six-month prevalence of 3.8% have been found for PTSD (Kilpatrick et al., 2013). In a small study sample of 90 regionally or nationally ranked athletes, 13.3% fulfilled the screening criteria for PTSD (Thomson & Jaque, 2016). There are generally few studies that have investigated trauma and stress-related disorders in elite athletes (Aron et al., 2019). For adjustment disorder, a one-year prevalence of 15–20% in athletes has been reported (McDuff, 2016). In connection, Angeli et al., (2004) have suggested that athletes would benefit if the sport-specific term *overtraining syndrome*, characterized by an imbalance between stress and recovery in athletes, were treated and understood as an adjustment disorder.

### *Obsessive-compulsive disorders (OCDs)*

In this type of disorder, the person is disrupted by recurrent obsessive thoughts and/or compulsions in the form of repetitive behaviors such as counting, cleaning, washing one's hands, and/or extensive checking (American Psychiatric Association, 2013, 2015). In the general population, the lifetime prevalence is estimated to be 1–3% (Hirschtritt, Bloch, & Mathews, 2017).

Few studies have investigated OCDs in athletes. In the yearly psychiatric evaluations of French elite athletes, 1.6% (females 2.3%, males 1.2%) had been diagnosed with OCD within the previous six months (Schaal et al., 2011). A small study, comparing symptoms of OCD between 25 current or former professional tennis players and 25 matched controls, found significantly higher scores on OCD symptoms among the tennis players (Marazziti et al., 2021).

### *Eating disorders*

These disorders impact a person's relationship with food and eating, and can have dangerous psychological and physiological consequences. Thoughts, feelings, and relationships with others are affected by the person's extensive concerns about their weight, body, and shape. Eating disorders include anorexia nervosa, bulimia nervosa, binge eating disorder, and unspecified eating disorders. Patients with anorexia are known to deny the severity of their relationship with food and to have restricted food intake and an extensive fear of gaining weight. Their self-esteem is also closely connected to their body and weight. In bulimia, patients consume a large amount of food that can be eaten very quickly and use compensative behaviors like purging and extensive exercise to control their weight (American Psychiatric Association, 2013, 2015). Eating disorders

can have serious consequences for those affected, and are associated with an elevated mortality risk including suicidal ideation (Smith, Zuromski & Dodd, 2018).

In the general population of Europe, the following prevalence rates for eating disorders in females have been reported: anorexia 1–4%, bulimia 1–2%, binge eating disorder 1–4%, and unspecified eating disorders 2–3%. Among males, 0.3–0.7% have been found to suffer from an eating disorder (Keski-Rahkonen & Mustelin, 2016). A high prevalence of eating disorders has been reported in athletes compared to the general population (Joy, Kussman, & Nattiv, 2016), ranging from 6 to 45% in females and from 0 to 19% in males (Bratland-Sanda & Sundgot-Borgen, 2013). A recent study in young elite athletes aged 13–19 years found clinically significant symptoms of eating disorders in 5.5%, with female athletes aged 15–18 years being the most at risk, with a prevalence of 9.6% (Walter, Heinen, & Elbe, 2022). In the yearly psychiatric evaluations of French elite athletes, 4.9% had been diagnosed with at least one eating disorder within the previous six months (females 6.5%, males 4.0%) (Schaal et al., 2011).

### *Addictive disorders*

Addictive disorders include substance use disorders connected to, for example, alcohol, cannabis, or cocaine. Such substances affect the reward system in the brain, creating an addiction and cravings that can be felt both mentally and physically. Behaviors related to gaining access to and consuming various substances can consume a great deal of time and energy, resulting in difficulty sustaining other parts of life such as work, responsibilities, and relationships. Patients with addictive disorders may be aware of and want to stop their consumption but lack the self-control to do so (American Psychiatric Association, 2013, 2015). Substance use disorders can take many years to develop and severely impact health and performance (McDuff, Garvin, & Thompson, 2022).

In Sweden, hazardous use of alcohol peaks in the age span 17–29 (corresponding to the ages of most elite athletes), with a total of 21.7% (females 22.3%, males 21.2%) misusing alcohol (Centralförbundet för alkoholorch narkotikaupplysning, 2022). In a review of substance use disorders among elite athletes, alcohol, cannabis, tobacco, prescribed opioids, and stimulants were found to be the most commonly used substances (McDuff et al., 2019). A meta-analysis involving elite athletes found that 18.8% (95% CI: 11.1 to 26.5%) reported symptoms of hazardous use of alcohol (Gouttebauge et al., 2019). The misuse of alcohol (e.g. binge drinking), oral tobacco, opioids (without prescription), and anabolic-androgenic steroids have been found to be more common among elite athletes compared to non-athlete populations, but with great variation by country, type of sport, and sex (McDuff et al., 2019).

# Methodology

Sport science offers the possibility to include different perspectives in order to gain a broader understanding of a complex phenomenon, such as psychiatric disorders in elite athletes. Bearing in mind that “not all research methods are compatible with all paradigmatic assumptions and all methodologies” (Smith & Sparkes, 2016, p. 390), a short description of the ontological and epistemological assumptions that have guided this project are presented below.

## Ontological and epistemological assumptions

In research, according to Guba and Lincoln (1994, p. 105):

Questions of method are secondary to questions of paradigm, which we define as the basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways.

Consequently, the view of “the form and nature of reality” (ontology) and our beliefs about how best to gain knowledge of this reality (epistemology) are closely connected to how data are collected in order to answer research questions (methodology) (Guba & Lincoln, 1994, p. 108). As qualitative and quantitative researchers often differ in how they answer these questions, and because the paradigm we adhere to becomes normative in what is considered “good” research (Sparkes & Smith, 2014), these are important positions to consider.

In Study I, the prevalence of symptoms of psychiatric disorders is investigated in presumably healthy elite athletes. From an ontological perspective, *prevalence* and *measurements* are grounded in an ontological assumption of a realist, external view of reality. This epistemological position places the investigator as an objective observer, detached and value-free from the subject of investigation. The goodness, or quality, criteria come down to “*internal and external validity, reliability, and objectivity*” within the post-positivistic paradigm (Guba & Lincoln, 1994, p. 112). In this tradition, new understandings involve the probable confirmation of a hypothesis (if not falsified); for exam-

ple, testing the null hypothesis (there is no difference) versus the alternative hypothesis (there is a difference) in the prevalence of symptoms of psychiatric disorders between female and male elite athletes. In Study II the aim was to describe the prevalence and comorbidities of different psychiatric disorders in a clinical cohort of elite athletes and high-performance coaches, and the same post-positivistic paradigmatic assumptions as described in Study I applied.

Traditionally, most research in medicine and psychiatry has been conducted within this post-positivistic tradition of quantification and reduction, in which different parts (of the bodied system) are to be separated and objectively measured (Mehta, 2011). However, other research paradigms are also acknowledged for their contributions to psychological research and understanding. As an example, in 2014 Division 5 of the American Psychological Association (APA) was renamed “Quantitative and Qualitative Methods” instead of “Evaluation, Measurements & Statistics” (Schiff, 2017).

Studies III and IV explore elite athletes’ *lived experiences* connected to psychiatric disorders and help-seeking. The research questions in these studies adhere to a relativist ontology and a subjectivist and social constructionist epistemology that acknowledge a view of social reality as subjective, multiple, and personally constructed (Guba & Lincoln, 1994). Instead of measuring, athletes were invited to talk about their lives. From this perspective (Sparkes & Smith, 2014, p. 13):

The aim of research is to focus on the particular ways in which people construct their meaning of a given phenomenon, seeking to expand the understanding of the phenomenon through the individual case.

Here, new knowledge is created in the interaction between researcher and respondent (Guba & Lincoln, 1994). In this tradition, the goodness criteria have different paradigmatic anchors than those in the post-positivistic objectivist epistemologies. A fixed set of criteria for judging quality are therefore not suitable; instead, the criteria must be adapted to the unique features of a particular research project (Smith & McGannon, 2017; Sparkes & Smith, 2014).

In practice, many researchers do both qualitative and quantitative research and shift between a realist vs. relativist view of reality depending on their research questions. Others are grounded in one tradition, but recognize the strengths and weaknesses of each paradigm. For them, simplistic dichotomies – e.g. a qualitative vs. quantitative view of what is good research – are not helpful in understanding complex research areas, as both qualitative and quantitative research on their own “fall short in developing evidence that is truly for professional practice” (Gill, 2011, p. 309). For example, researchers trained in the numeric post-positivistic research paradigms may also recognize that there is not one “truth” but rather multiple “truths” and incorporate social justice

and advocacy in their work (usually associated with more qualitative methodology); and from the opposite direction, qualitative researchers do not have to adhere to a relativist view of reality (Gill, 2011).

## Statistical analysis

In this thesis two studies are quantitative in nature, with the primary aim to describe the prevalence and comorbidities of symptoms of psychiatric disorders in a presumably healthy population of elite athletes (Study I) or established psychiatric disorders within a clinical cohort of elite athletes in psychiatric treatment (Study II). As both studies were primarily descriptive in nature, basic descriptive and analytical statistical methods were used to present the data. In all analyses, p-values  $<0.05$  were considered statistically significant.

### *Study I:*

Basic demographic variables, such as the proportion of male vs. female athletes and age, were presented using statistical summary measures (percentages and means). To analyze differences in categorical variables, chi-square ( $\chi^2$ ) tests were used to analyze sex differences in, for example, reaching the clinical cutoff for different symptoms of disorders (yes/no), and t-tests and/or the Mann-Whitney U test were used to analyze sex differences on continuous variables without an established cutoff criterion. Questionnaire information is found on page 331 in Study I (Åkesdotter et al., 2020). The internal consistency of the questionnaires used in the study was evaluated by calculating Cronbach's alpha.

To analyze whether sport-specific instruments might be used to detect clinical symptoms in elite athletes, non-parametric receiver operating characteristic (ROC) curves were created and sensitivity and specificity for all possible cutoff thresholds between the clinical and sport-specific questionnaires were calculated. As a measure of diagnostic accuracy, the area under the curve (AUC) was analyzed. The clinically validated questionnaire (with established cutoff criteria) was set as the gold standard diagnostic test used for comparison with the sport-specific equivalent without established cutoff criteria. The Youden Index was used to find the empirical cutoff that best maximized the AUC (Carter et al., 2016).

### *Study II:*

As in Study I, the demographic data were presented using absolute numbers, percentages, and means. Chi-square ( $\chi^2$ ) tests, or Fisher's exact tests if the expected contingency table cell counts were  $<5$ , were used to present the distribution of categorical variables (such as suffering from a psychiatric disorder (yes/no) between male and female athletes). To analyze sex differences between continuous variables, for instance age at first contact with the clinic and number of psychiatric diagnoses, two-sample t-tests were used.

## Narrative analysis

Studies III and IV in this thesis are qualitative-based life story interviews, analyzed using different forms of narrative methodology, with five elite athletes recruited from the treatment records of an open psychiatric clinic in Stockholm, Sweden. As described by Hammell (2007, p. 125), "qualitative research can make a valuable contribution to evidence-based healthcare by probing 'taken for granted' and conventional ideas, and exploring the experiences, perspectives and contexts of people's lives". According to Atkinson (1998, p. 8):

The life story is the story a person chooses to tell about the life he or she has lived, told as completely and honestly as possible, what is remembered of it, and what the teller wants others to know about it...

One strength of life story interviews is the possibility they offer to get to know the participant's subjective inner life, including how they see themselves at different times in their life (Atkinson, 1998, p. 8; Plummer, 2001). In research, life stories can be both a resource and the topic of investigation (Sparkes & Smith, 2014).

### *Study III:*

In this study, life story interviews were used as a resource in order to explore the reasons given by five elite athletes for seeking support and psychiatric treatment outside, rather than within, their own sport environment. A biographical mapping method, combining semi-structured interviews with drawing a graph of their career and mental health over time, was used (Schubring, Mayer, & Thiel, 2019). The biographical map was simultaneously used as a visual aid to connect the research questions in the interview guide in the athletes' life stories in temporal order.

The interviews were then transcribed verbatim and the transcripts were first subjected to a structural narrative analysis, focusing on the type of narrative (Riessman, 2008). (For

examples of narrative types see p. 30 under the heading *Narrative perspective* in this thesis.) Then, a thematic analysis and coding of themes connected to the overall research questions were conducted (Braun, Clarke, & Weate, 2016). This process included both inductive and deductive reasoning; for example, the structural analysis took an inductive approach, moving from observations of patterns to theory, observing that all participating athletes adhered to the performance narrative (Douglas & Carless, 2015). In the thematic analysis a deductive approach was used, organizing the themes and describing a central organizing concept of why the participants choose to seek external help and support outside rather than within their elite sport context. The codes were then organized into themes. Using both inductive and deductive reasoning in research has been described as *abductive reasoning* (Sparkes & Smith, 2014, p. 27). Furthermore, peer debriefing and the use of a critical friend, as described by Sparkes and Smith (2014), were used throughout the analytical process. The athletes taking part in the interviews were also encouraged to reflexively elaborate on the interpretations of their data (Sparkes & Smith, 2014).

#### *Study IV:*

Study IV focuses on one female elite athlete, “Lisa”, and her story of living with an eating disorder. A poetic representation of her experiences is presented. Most narrative studies in general and of sport psychology in particular, including Study III in this thesis, employ a story analyst approach (Smith, 2016; Smith & Sparkes, 2006). A story analyst systematically analyzes the content and/or structure of stories and presents the results as a realist tale (Sparkes, 2002). Realist tales have greatly contributed to increasing our understanding of the social worlds of elite athletes – but are not the only way to present qualitative research.

One alternative is the use of creative analytical practices (CAP), which present a range of options, including the use of poetic representations. In CAP, the process of constructing a story is in itself the analysis, and instead of acting as an analyst the researcher takes on the role of storyteller (Sparkes, 2002). The poetic representation here was created using Lisa’s own words in the interview transcripts, also referred to as “found poetry” (Lahman & Richard, 2014). For a more detailed description of the methodology, see Sparkes and Douglas (2007), who used the same approach showing how a pro golfer, Leanne, gave meaning to various events that had happened during her career as an elite athlete.

## Ethical considerations

Ethical considerations are fundamental in research. These considerations go beyond the formal approval to conduct research, after the research plan and the competence of the research group have been evaluated by an ethical review board. Guillemín and Gillam (2004) describe ethical approval as a first step that serves as a form of procedural ethics, but also highlight the importance of moving beyond formal or procedural ethics to also acknowledge “ethically important moments”; for example, how to react as a researcher when during an interview the participant talks about vulnerable experiences in elite sport. They suggest that at least two forms of ethics are always present in research (Guillemín & Gillam, 2004, p. 263):

- (a) procedural ethics, which usually involves seeking approval from a relevant ethics committee to undertake research involving humans
- (b) “ethics in practice” or the everyday ethical issues that arise in the doing of research

From a historical perspective, most of the written guidelines on ethical practice in research are grounded in the biomedical research tradition. Many of these guidelines are a response to prior inhumane research, with an aim to ensure that this will never happen again (Lahman et al., 2011). For example, some of the first ethical guidelines in research were written as a direct response to the Nuremberg trials, revealing terrible human experiments conducted by Nazi medical doctors on Jews and other marginalized groups during World War II (Greenwald, 2013). Over time, these guidelines have been extended to also include qualitative research. All the studies included in this thesis were granted ethical approval by the Swedish Ethical Review Authority.

Procedural ethics, like ethics applications, provide a checklist of important aspects to consider in all types of research, including a balanced evaluation of the benefits of the research versus the risks of participation, how confidentiality is ensured, and the use of informed consent (World Medical Association, 2013).

In this thesis, informed consent was obtained for Studies I, III, and IV; it was not obtained for Study II, as this study included only a limited number of variables in order to describe a clinical cohort of elite athletes (and high-performance coaches) in general terms. Both the research team and the Ethical Review Authority evaluated the risk of violating personal integrity or other negative consequences, based on including this data, to be very low. Ethical approval was thus granted without informed consent. Furthermore, the dataset used for statistical analysis in Study II was coded, making any direct or indirect identification of specific individuals impossible during all steps of

analysis. Additionally, to further ensure the integrity of the participants in this study, no data based on groups with <5 individuals were reported in the final article.

In Study I, all athletes participating in the survey were informed of their rights and provided informed consent. For the qualitative studies (Studies III and IV), a three-step process was employed to ensure voluntary participation. First, informed consent was provided at the beginning of the study. Second, all athletes approved their own quotes that were chosen to be included in the article. In this step, a separate phone call (Study III) or personal visit (Study IV) was made to all athletes, encouraging them to reflect on the data that had been selected to represent their story. This involved making sure that they felt that their stories had been represented fairly, that they approved their personal quotes, recognized themselves in the themes, and were still happy to be included in the study. In the third and final step, after modifications to the manuscript, all athletes were presented with the final article to ensure that they were still happy for it to be published in its current form.

In regard to both procedure and ethics in practice, it is central to remember that (Guillemin & Gillam, 2004, p. 271):

Research involving human participants starts from a position of ethical tension. In the great majority of cases, research involving humans is a process of asking people to take part in, or undergo, procedures that they have not actively sought out or requested, and that are not intended solely or even primarily for their direct benefit, although in some cases participants may indirectly benefit from the process.

It is therefore important for researchers to take ethical accountability for all parts of the research process, and this goes beyond the formal ethical approval. To do this, the practice of reflexivity, a term that comes from qualitative research (for a discussion on reflexivity, see also the prologue on p. xi in this thesis), is important in all aspects of research. This includes everything from analyzing the overall ethical considerations of the whole research project to the small everyday decisions and immediate actions that need to be taken in everyday practice (Guillemin & Gillam, 2004). For example, in sport science this could include determining when the risk to participants performing a physical stamina test becomes too high to ensure their physical health and safety if they continue, or when to draw the line in probing a participant to reveal personal and vulnerable information about themselves in qualitative research. According to Guillemin and Gillam (2004, p. 275):

Adopting a reflexive research process means a continuous process of critical scrutiny and interpretation, not just in relation to the research methods and the data but also to the researcher, participants, and the research context.

Or, as stated by Sparkes (personal communication), “if you are not reflective you are a dangerous researcher”. In their presentation of *Culturally Responsive Relational Reflexive Ethics* (CRRRE), Lahman et al. (2011, p. 1400) also point out that not all ethical dilemmas in research have a right or wrong answer, and that “the researcher must be ready to reside in a place of ambivalence or tension regarding some of their decisions”. CRRRE includes *culturally responsive ethics*, described as being able to react quickly and sympathetically in a caring way in different situations that can arise in research. This also includes being able to shift our perspective from the stance of a researcher to viewing the participant’s own perspectives, being aware of the potential cultural differences, and valuing their worldview even if it is different from our own. In practice, this can be seen in sharing information with participants during the research process and ensuring that they still want to participate at all steps of the process (Lahman et al., 2011). *Relational ethics*, as described by Ellis (2007, p. 25), stands for an obligation to care for your research participants, and “hold relational concerns as high as research”. Finally, *reflexive ethics* involves an ongoing conversation and reflexive practice regarding experiences connected to the research process (Lahman et al., 2011). In the present thesis this involved the use of a reflexive journal, pilot studies, and ongoing ethical discussions within the research team throughout the PhD project.

# Results and discussion

The overall aim of this thesis was to develop a deeper understanding of psychiatric disorders among Swedish elite athletes. The results and discussion should be seen as an extension of the original studies, and all considerations mentioned in the original articles are not repeated here. Instead, some broader reflections that did not find a natural place in the original publications are presented, as are new considerations in regard to the research that has been published during the course of this PhD project.

## Study I

The first study is a descriptive overview based on a cross-sectional survey including presumably healthy Swedish elite athletes on a national team level of performance. The first aim was to investigate the prevalence of mental health problems (MHP), symptoms of psychiatric disorders, and previous history of psychiatric diagnoses. Comorbidities, sex differences, age at onset, and number of recurrent episodes were also evaluated. The second aim was to test the usefulness of two common sport-specific measurements in detecting symptoms of psychiatric disorders in elite athletes.

In this study the population included elite athletes on a national team level who also attended higher education (Åkesdotter et al., 2020). This difference from other elite athlete populations should be acknowledged when interpreting the results, as it may impact generalizability. Importantly, this study did not recruit athletes enrolled in university studies; instead, athletes on a national team level who had applied for a scholarship were invited to participate. These athletes stated that, in order to qualify for the grant, they were enrolled in a course or program (part-time). As this grant was also open to applications from paralympic (para) athletes, a limited number of paralympic athletes are also included. A study by Olive et al. (2021) generally found no difference between para-athletes and non-para-athletes regarding symptoms of psychiatric disorders.

Overall, the similarities between the athletes in this cohort compared to other elite athletes in Sweden were considered to be great, and the sample was deemed to be representative of elite athletes from many different sports and ages in Sweden. Nevertheless,

this argumentation has not escaped criticism (Kegelaers et al., 2022). For context, a recent review found that student athletes generally report a similar or decreased risk of experiencing symptoms of psychiatric disorders (Kegelaers et al., 2022). It is therefore possible that this study might present lower prevalence rates compared to other studies with more diverse samples. Also worth noting is that most prior research including student athletes has been performed among North American college students, with circumstances that may not directly translate to the Swedish and Scandinavian educational and sport contexts (Kegelaers et al., 2022).

At the time of this project's planning (2016), no prevalence data on MHP, symptoms of psychiatric disorders, or history of psychiatric diagnoses (evaluated by a licensed caregiver) were present for elite athletes in the Nordic countries. Furthermore, age at onset and number of recurrent episodes had not been previously investigated in this population. Lastly, at the time of data collection and analysis, the diagnostic properties of commonly used sport-specific instruments measuring performance anxiety and burnout to indicate clinical symptoms of psychiatric disorders in elite athletes had not been evaluated.

The lifetime prevalence of MHP in Swedish elite athletes (mean age 24.6 years) was found to be 51.7% (females 58.2%, males 42.3%,  $p=0.006$ ) and recurrent episodes were common (1 episode: 24.4%, 2 episodes: 27.9%,  $\geq 3$  episodes: 47.7%). In a longitudinal study following individuals from birth to age 45 in New Zealand, 86% fulfilled the diagnostic criteria for at least one psychiatric disorder at one or more points in time (Caspi et al., 2020). An earlier study based on the same cohort in New Zealand found that a mental health trajectory with one or more relatively brief episodes of psychiatric disorders seemed to be the most common pattern in the general population (Schaefer et al., 2017). This trend seems to be reflected in the number of recurrent episodes reported by Swedish elite athletes. Overall, these results indicate that we might need to re-evaluate the view of MHP and psychiatric disorders as rare and abnormal, and instead view these episodes as something that normally tends to occur at some points in life.

The median age of the first MHP episode was found to be 19 years, and 50% of those with a history of MHP had their first episode between ages 17 and 21. This might therefore be a particularly vulnerable age group with regard to mental health in elite sport. For example, the career transition literature reports that the transition from junior to senior, which corresponds to these ages in elite athletes, is a particularly challenging time for young athletes, with around 80% experiencing it as a crisis (Stambulova, 2017). In a large meta-analysis investigating the age at onset of any psychiatric disorder worldwide, in 34.6% the age at onset was found before age 14, in 48.4% before age 18,

and in 62.5% before age 25 (Solmi et al., 2022). No significant sex difference in age at onset was found in either elite athletes (Åkesdotter et al., 2020) or the general population (Solmi et al., 2022). Interestingly, this might indicate that elite sport participation might act as a protective factor, at least until the late teens, as 50% of onsets were reported between ages 17 and 21 years with a peak at 19 (Åkesdotter et al., 2020). In comparison, a large meta-analysis in the general population found that the peak age at onset of psychiatric disorders was 14.5 years (IQR 11-34) (Solmi et al., 2022). More research is clearly needed to understand the impact of elite sport participation on athletes at different ages. Importantly, these data are based on athletes who actually made it to the national team; thus, the mental health of those who did not make it through the junior/senior transition is an important area for further research.

Females elite athletes were found to seek more help for MHP than their male counterparts (37.8% vs. 16.8%). These results are reflected in the general help-seeking literature. Outside elite sport, it is common that the help-seeking journey for MHP begins with making more informal contacts and ends with contacting a professional mental health provider, such as a psychiatrist or licensed psychologist (Brown, Sagar-Ouriaghli, & Sullivan, 2019). Future research should investigate whether this pattern is also present in elite athletes. Overall, in the general population, and potentially in elite sport, most individuals with psychiatric disorders do not seek or receive treatment at all (Kessler et al., 2005).

Among Swedish elite athletes, a point prevalence of 19.5% for clinical symptoms of anxiety and/or depression was found (females 26.0%, males 10.2%). Direct comparisons with the general Swedish population are difficult, due to a lack of data and methodological differences. However, a 2013 study using the same measurements in the general Swedish population found that 17.2% (females 20.5%, males 13.3%) were experiencing clinical symptoms of anxiety and/or depression, but the mean age of participants in this study was considerably higher (46.7 years) than in the elite athlete study (24.6 years), and involved an age group that generally reports lower levels of anxiety and depression compared to the ages of most active elite athletes (Johansson et al., 2013).

Even though almost one in five Swedish elite athletes met the clinical cutoff for symptoms of anxiety and/or depression (Åkesdotter et al., 2020) at a given point in time, this seems to be lower than previously reported data. A meta-analysis of nine studies including 2,895 elite athletes from different countries showed a point prevalence of symptoms of anxiety and/or depression of 33.6% (95% CI: 27.4 to 39.7) (Gouttebarga et al., 2019).

Furthermore, Purcell et al. (2020) found a 35% prevalence of “probable caseness” likely fulfilling the diagnostic criteria for at least one psychiatric disorder in Australian elite athletes, and Poucher (2021) found that 41.4% met the cutoff criteria for symptoms of at least one psychiatric disorder in Canadian elite athletes preparing for the Olympic games. Besides methodological differences regarding, for example, screening instruments, this variance might partly be explained by the inclusion of student athletes in Study I. As mentioned, student athletes tend to report similar or lower rates of symptoms of psychiatric disorders (Kegelaers et al., 2022). Another potential explanation might be that the prevalence in the Scandinavian countries might be lower than in other ones. For example, Kuettel et al. (2020) reported similar prevalence rates of anxiety in Danish elite athletes – 13.9% compared to 12.6% in the Swedish study – even though the Swedish data on moderate/severe depressive symptoms also seemed to be somewhat lower at 14.7%, compared to 21.1% in the Danish study.

In the Swedish study, 8.1% (females 10.7%, males 4.4%) had previously received a psychiatric diagnosis by a licensed caregiver. As these numbers are based on self-reported data rather than clinical evaluations as in Studies II, III and IV, there is a potential risk for recall bias. The difference between females and males could be explained by the fact that females are overrepresented in certain psychiatric disorders (Riecher-Rössler, 2017) and/or that males, in general, are more reluctant to seek help (Brown et al., 2019). In elite athletes, it was most common to self-report a prior history of receiving a diagnosis of an affective disorder (e.g. depression), eating disorder, or trauma and stress-related disorder, which is consistent with previous research on psychiatric conditions that are commonly found in elite athletes (Reardon et al., 2019). Interestingly, a previous diagnosis of an anxiety disorder was not commonly found, even though the point prevalence measurement showed that 12.6% (females 16.8%, males 6.6%) met the cutoff for moderate symptoms. Anxiety disorder was also the most common diagnostic group found in 8.6% of French elite athletes during their yearly psychiatric evaluations (Schaal et al., 2011). One potential explanation could be that symptoms of anxiety disorders are normalized in elite sport and present a clinical picture that does not encourage help-seeking in the same way as the symptom manifestation of stress, eating, or affective disorders.

Among the Swedish elite athletes in the present sample with a previous psychiatric diagnosis, 29.6% had received more than one. Due to the study design, it is not possible to conclude whether these diagnoses were received at the same time (i.e., comorbidity) or at different times. It is not unusual to have episodes of different types of psychiatric disorders over time (Caspi et al., 2020), and at least in a clinical cohort of elite athletes, comorbidity between different types of psychiatric disorders was common (Åkesdotter

et al., 2022). With regard to self-reported data on previous psychiatric disorders, it is possible that the elite athletes were not aware of all the specific diagnoses they had received in the past, and/or that they might have forgotten previous psychiatric disorders due to recall bias.

Symptoms consistent with the clinical picture of ADHD were found in 5.4% (females 5.1%, males 5.8%,  $p=0.96$ ) of the athletes. A narrative review of ADHD in elite athletes concluded that the prevalence in this population can be as high as 7–8% (Han et al., 2019). Interestingly, a Swedish study on young elite athletes showed significant differences in ADHD symptoms during the time spent in school versus that spent in sports activities, indicating that sports activities exert a positive influence by reducing symptoms of ADHD (Ekman, Hiltunen, & Gustafsson, 2021).

Hazardous drinking in Swedish elite athletes was found in 25.8% (females 24.5%, males 27.7%,  $p=0.59$ ). This is relatively high compared to a previous meta-analysis including hazardous use of alcohol among elite athletes that found a prevalence of 18.8% (95% CI: 11.1 to 26.5%), even though the results for Swedish elite athletes still fall within the 95% confidence interval (Gouttebauge et al., 2019). In Sweden, the age group of 17–29 years, corresponding to the ages of most elite athletes, reports the highest prevalence of hazardous use of alcohol. In this group, 21.7% (females 22.3%, males 21.2%) of the general population was found to meet the diagnostic criteria for an alcohol use disorder (Centralförbundet för alkohol- och narkotikaupplysning, 2022). A narrative review has found that misuse of alcohol is generally more common in elite athletes compared to the general population, but great variations are present in the data. Elite athletes also seem to have more of a binge drinking pattern, with a higher risk of misusing alcohol during low competitive seasons and after championships than during the competitive season (McDuff et al., 2019). Based on this, more recurring measurements of alcohol use over time among Swedish elite athletes are recommended to enhance the picture.

The usefulness of sport-specific instruments in indicating symptoms of psychiatric disorders was also evaluated. At the time of this study, there was a lack of general psychiatric tools for detecting MHP in elite sport. More recently, however, various questionnaires to fill this void have been developed and evaluated. One example is the Athlete Psychological Strain Questionnaire (Rice et al., 2020; Rice et al., 2019), which can be used to discriminate between *moderate*, *high*, and *very high* distress levels in elite athletes. It is recommended for use when one needs to determine whether further investigation and psychiatric evaluations may be needed. This questionnaire is also the first phase of triage in identifying athletes at risk according to the International Olympic

Committee (IOC) Sport Mental Health Assessment Tool (SMHAT-1), whereupon those identified as being at risk are recommended further screening with the Sport Mental Health Recognition Tool 1 (SMHRT-1) (Gouttebarga et al., 2021). In this step, athletes are evaluated with six disorder-specific screening questionnaires, including the Generalized anxiety disorder 7-item scale (GAD-7), the Patient Health Questionnaire 9-item scale (PHQ-9), and the Alcohol Use Disorders Identification Test (AUDIT-C), also used in Study I in this thesis (Gouttebarga et al., 2021).

In Study I, the usefulness of sport-specific questionnaires in detecting clinical symptoms of anxiety and depression was also evaluated. The choice to include these analyses came from practical experience. At one point in time, I worked in the laboratory of applied sport science at the Swedish School of Sport and Health Sciences (GIH). Many elite athletes visited the lab, and in some cases their physiological testing was supplemented with sport psychology measurements. The trainers from the athletes' clubs knew about my training in sport and clinical psychology and encouraged athletes with high scores to contact me for consultations. After evaluation, many of these athletes were found to suffer from clinical symptoms of disorders, which created a curiosity to evaluate the potential diagnostic properties of some of the most common instruments in sport psychology, not least as sport-specific measurements often lack established cutoff criteria. As the cutoffs calculated from the ROC analyses did not reach sufficient sensitivity without sacrificing specificity to under 50%, the instruments were deemed insufficient to give any clear answers. Thus, even though most instruments showed fair diagnostic accuracy, they lacked sufficient sensitivity and specificity for evaluative purposes and practical use in elite athletes. From a pedagogical perspective, however, the results could still be used to encourage discussions of the strengths and weaknesses of measurements commonly used within sport and clinical psychology from both a research and an applied perspective.

Addressing the diagnostic properties of the Athlete Burnout Questionnaire (ABQ), a depression scale (PHQ-9) rather than a burnout scale was used as a reference variable. First, this evaluation had already been done in a previous study using the Shirom-Melamed Burnout Questionnaire (Gerber et al., 2018) as reference, and in comparison, the ABQ was found to be insufficient in detecting clinically relevant burnout symptoms in young elite athletes. A burnout-depression overlap has long been noted, and it is disputed whether burnout is actually a form of depression (Bianchi, Schonfeld, & Laurent, 2015). Burnout is not a psychiatric diagnosis and is often described as a syndrome that can be a contributing factor to mental illness; for example, it is often found in connection to affective disorders and stress-related disorders (Maslach & Leiter, 2016). Overtraining syndrome (OTS), a preliminary state of athlete burnout, is also commonly

found in connection to affective diagnoses in elite athletes (Haghighat & Stull, 2022). OTS and affective disorders share many depressive symptoms, such as depressed mood, loss of motivation, and fatigue (Gorczynski, 2022). It was therefore of interest to evaluate the ABQ with a validated scale measuring depressive symptoms as a reference variable.

One limitation often mentioned in connection with research on elite athletes is the lack of a reference group (Reardon et al., 2019). With the use of a reference group or a control group regarding interventions, it is possible to test different hypotheses in research and better evaluate the prevalence of different disorders between elite athletes and the general population. Here, it is important to acknowledge the differences between exploratory and confirmatory research (Schwab & Held, 2020).

In confirmatory research, a clear hypothesis is tested (and required). In exploratory and descriptive research (such as in Studies I and II), one or more broad research questions are asked with the overall aim to gain new insights, often in a relatively new area of research. A hypothesis, reference group, or control group is not required, as the main goal is not to evaluate cause and effect or to make direct comparisons but rather to provide a first descriptive overview that can inspire new hypotheses and guide future confirmatory research. As noted by Schwab and Held (2020), both exploratory and confirmatory research are important. However, the overall lack of confirmatory methodology in mental health research regarding elite athletes is problematic, and such methods are needed in order to advance the field. As Study I had an exploratory design, the discussions and potential explanations regarding the results need to be tested empirically before any overly bold conclusions can be drawn. For further elaboration on strengths and weaknesses in connection to this study, please see Åkesdotter et al. (2020).

### *Implications*

- The onset of most MHP seems to occur between ages 17 and 21. This corresponds to a time of major changes in the life of many young elite athletes, such as finishing high school, potentially resulting in a lack of routine, and moving from junior to senior competitions in many sports. Resources and attention should be directed at following and supporting athletes especially during these years. For optimal effect, any preventive interventions should be initiated before these ages.
- Over 50% of Swedish elite athletes had experienced MHP at some point in their lives and frequent episodes were common. Thus psychoeducational inter-

ventions should be developed that no longer treat mental health struggles as an abnormality within elite sport but instead as something most athletes encounter at some point in their career.

- Symptoms of anxiety disorders reaching a clinical level were found in over one of ten athletes; at the same time, very few athletes reported a prior history of anxiety disorders evaluated by a licensed caregiver. This potentially indicates that even though anxiety symptoms reaching a clinical level are relatively common, they may be so normalized in elite sport that few athletes seek professional treatment for them.
- The sport-specific instrument (Athlete Burnout Questionnaire (ABQ) and the Competitive State Anxiety Inventory-2 (CSAI-2) do not have sufficient diagnostic properties for practical use in elite athletes.

## Study II

The second study is a descriptive overview exploring psychiatric disorders and comorbidities between disorders in a clinical cohort of elite athletes and high-performance coaches seeking psychiatric outpatient treatment at two elite sport-specialized clinics in Stockholm and Malmö, Sweden.

There is a general lack of research including homogeneous samples of elite athletes. Access to high-level athletes is a challenge in elite sport research, especially when it comes to the top-performing athletes on national teams. Overall, the data on athletes in psychiatric treatment are mostly anecdotal, and most studies involving MHP and psychiatric disorders in athletes have been performed in presumably healthy populations (Reardon et al., 2019). Additionally, few studies have included athletes with an established psychiatric diagnosis assessed by a licensed caregiver, and to our knowledge, the patient characteristics of a clinical cohort of elite athletes in psychiatric treatment have not been explored before.

For transparency, the eligibility criteria in this study are somewhat different to those in Study I. In Study II, both psychiatric clinics also provided treatment to retired elite athletes within two years of completing their athletic career. This is a confounder. While very few retired athletes sought psychiatric treatment at the clinics, this difference in eligibility criteria should nevertheless be noted when considering the findings. In addition, compared to Study I there was no need for a scholarship to seek psychiatric treat-

ment in Study II. Speculating on potential implications in a meta-analysis comparing current and former elite athletes Goutteborge et al. (2019) reported a 34% prevalence of anxiety/depression in active athletes, compared to 26% in their retired counterparts. As in Study I, a limited number of paralympic athletes were also included in this study, potentially affecting the results, even though previous research has found the rates of most mental health symptoms between para-athletes and non-para-athletes to be comparable (Olive et al., 2021). Lastly, this study included all athletes eligible for treatment at the two psychiatric clinics between February 2015 and May 2021. This period coincides with the outbreak of the COVID-19 pandemic, which may have impacted the general mental health of elite athletes in Sweden. A narrative review found that the lockdown period during the pandemic contributed to stress and anxiety (Pellino et al., 2022). Importantly, Sweden has had a liberal policy and no lockdown during the pandemic, and it is unclear how this period in general has influenced the mental health of Swedish elite athletes.

A total of 221 elite athletes were included in the clinical cohort over six years. A majority of the patients (69%) were females, and 31% were males. On Swedish national teams, the number of male elite athletes marginally outnumbers females (Swedish Research Council for Sport Science, 2021). The overrepresentation of female athletes in open psychiatric treatment can potentially be explained by the fact that females are generally overrepresented regarding a majority of psychiatric disorders both in the general population and within elite sport (Riecher-Rössler, 2017; Schaal et al., 2011) and that males, at least in the general population, are more reluctant to seek help (Brown et al., 2019). There was no statistically significant sex difference in the number of co-occurring diagnoses between males and females, possibly indicating a similar severity of disorders between male and female elite athletes, as increased comorbidity is often connected to more severe conditions (Johansson et al., 2013).

There was no sex difference in the clinical cohort of elite athletes regarding the prevalence of affective disorders (51%: females 50%, males 52%,  $p=0.95$ ) or anxiety disorders (69%: females 70%, males 67%,  $p=0.89$ ). When Swedish elite athletes were asked to self-report their prior history of psychiatric disorders, the most common were depressive disorders, eating disorders, or stress-related disorders (Åkesdotter et al., 2020). This is interesting, as anxiety disorders were missing, even though this was the most common diagnostic group found in the clinical cohort of elite athletes. Moreover, a point prevalence of 14.7% of clinically significant symptoms of anxiety has been reported in the general population in Sweden (Johansson et al., 2013). Importantly, this is partly explained by the fact that stress-related disorders in the clinical cohort were grouped under anxiety disorders. Nevertheless, only 25% of the elite athletes in the

clinical cohort had a stress-related disorder, while 31% and 29%, respectively, had developed a phobic anxiety disorder or another anxiety disorder. Regarding anxiety disorders, it is also important to note that 8% of the elite athletes in the clinical cohort had an obsessive-compulsive disorder, indicating an important area for future research as these disorders may be prevalent in elite athletes, at least among those seeking psychiatric treatment.

According to Purcell et al. (2022, p. 63):

Performance anxiety refers to fear than an athlete experience in the context of their sport participation, especially competition, that they will not be able to perform as hoped or planned or that the situation/competition will be to challenging or even dangerous.

Distinguishing between different forms of anxiety (e.g. clinical/pathological vs. normal nervousness and performance anxiety) can be difficult without a psychiatric evaluation (Purcell et al., 2022). As an athlete can simultaneously suffer from both performance anxiety and meet the diagnostic criteria for a clinical anxiety disorder, it is possible that some of the disorders in Study II describe athletes who also suffer from performance anxiety. Depending on the individual manifestation of symptoms, i.e. if an athlete meets the diagnostic criteria for an established disorder, they will receive a diagnosis such as generalized anxiety disorder, social anxiety disorder, or panic disorder (Reardon et al., 2021). For example, in Study II in this thesis, a high level of social anxiety diagnoses was noted at 31% (females 33%, males 26%). This number stands out as quite high in comparison with Schaal et al. (2011), who found just a 0.8% prevalence using psychiatric evaluations by licensed caregivers in psychiatric screenings of French elite athletes. At the same time, Gulliver et al. (2015) noted a higher prevalence of symptoms of social anxiety in 14.7% of Australian elite athletes, indicating that social anxiety may be quite common in elite athletes. Future research should explore how often clinical anxiety disorders in elite sport are accompanied by performance anxiety, or whether psychiatric diagnoses are in fact used as a proxy to diagnose athletes with clinical levels of performance anxiety.

In regard to treatment, athletes are generally recommended the same evidence-based treatment as the general population (Reardon et al., 2021; Stillman & Farmer, 2021). For example, psychoeducation could be very helpful in understanding and normalizing both the somatic and cognitive symptoms of different anxiety disorders. CBT interventions and mindfulness-based stress reduction are also recommended (Reardon et al., 2021). As anxiety disorders are often found as a comorbid disorder (Åkesdotter et al., 2022), the unified protocol for the transdiagnostic treatment of emotional disorders,

which has been evaluated with good results in the general population, can also be recommended (Carlucci, Saggino, & Balsamo, 2021). It has also been suggested that some athlete-specific mental health challenges, like overtraining syndrome (OTS), would benefit from being diagnosed and treated according to the treatment plans for adjustment disorder (Jones & Tenenbaum, 2009). It is possible that competitive anxiety might benefit from the same renaming if the diagnostic criteria for another anxiety disorder are fulfilled, using treatment protocols previously evaluated in the general population.

Another result that stands out is that 26% of the elite athletes seeking psychiatric treatment received an eating disorder diagnosis. This is a high number, especially among the females (females 37%, males  $n < 5$ ,  $p < 0.001$ ). Eating disorders assessed by a licensed caregiver also comprised one of the most common previous diagnoses self-reported by Swedish elite athletes when describing their psychiatric history (Åkesdotter et al., 2020). In the past year in Sweden there has been a debate concerning the long wait to receive treatment for eating disorders within the public healthcare system, with patients having to wait up to a year to begin treatment (Hellander et al., 2021). The high number of eating disorders in the clinical cohort of elite athletes could therefore be explained both by the fact that these disorders are overrepresented in elite athletes (Joy et al., 2016) and by the lack of other available treatment options. Eating disorders are also often underreported or hidden, and only a third of those affected are noticed by healthcare in European countries (Keski-Rahkonen & Mustelin, 2016).

Disorders due to psychoactive substance use were found in 6% of the elite athlete cohort, and more commonly in males (females  $n < 5$ , males 14%,  $p = 0.01$ ). Interestingly, a clear sex difference was found in the clinical cohort, but not when screening presumably healthy Swedish elite athletes (Åkesdotter et al., 2020). The same trend nevertheless seems to be present in the general Swedish population: Males were found to be overrepresented regarding hazardous use of alcohol in patients in primary care, but a more even distribution emerged when the general population was screened (Centralförbundet för alkohol- och narkotikaupplysning, 2022).

Stress-related disorders were found in 25% of the clinical cohort of elite athletes. Based on the available data, it is not possible to know how much of this stress can be traced back to hard training in combination with insufficient recovery (overtraining syndrome) (Meeusen et al., 2013) compared to disorders emerging from social, psychological, and environmental stress factors. Stress-related disorders are also interesting from a performance perspective, as research has shown that stressful life events negatively affect athletes' ability to recover after training (Bartholomew et al., 2008; Stults-Kolehmainen & Bartholomew, 2012). In support of this, individual variations in general stress in life,

outside the physiological training load, have been suggested as an important factor in explaining the individual differences in results after standardized training interventions (Mann, Lamberts, & Lambert, 2014).

One specific disorder category that stands out in the results is OCD. Among all athlete patients 8% received an OCD diagnosis, with an almost equal distribution between the sexes (females 7%, males 9%). Previous research is sparse, although Cromer et al. (2017) found clinical symptoms in 5.2% of elite collegiate athletes, and in the yearly psychiatric evaluations of French elite athletes 1.6% received an OCD diagnosis (Schaal et al., 2011). The relatively high prevalence of OCD in Swedish athletes seeking psychiatric treatment warrants further investigation, as almost one in ten male elite athletes received this diagnosis. This may indicate that seeking help for OCD is relatively common, or that the prevalence in an elite sport population is higher than previous research has indicated. As OCD can be a highly disabling illness, with obsessions and compulsions taking over large parts of the sufferer's life, more research is urgently needed.

Regarding comorbidity in the clinical cohort, for athletes with at least one diagnosis within the four diagnostic groups (anxiety disorders, affective disorders, eating disorders, and substance use disorders), a sole anxiety disorder was the most common, found in 30% of the athletes. This was followed by comorbid anxiety and depressive disorders (23%) and sole affective disorders (14%). In the clinical cohort, eating disorders were often found concurrently with anxiety and/or affective disorders. This is also mirrored in the general population, in which eating disorders tend to co-occur with other psychiatric diagnoses (Hudson et al., 2007; Keski-Rahkonen & Mustelin, 2016). Common comorbidities noted in previous research in the general population include affective disorders, substance use disorders, OCD, and PTSD (Joy, 2022).

Unfortunately, a larger cohort would have been needed in order to explore comorbidities between substance use disorders and other forms of psychopathology. Nevertheless, epidemiological research on substance use disorders in the general population has found that comorbidity with other disorders, foremost affective and anxiety disorders, is common in both clinical cohorts and in the general population (Morisano, Babor, & Robaina, 2014).

Importantly, comorbidity refers to fulfilling the diagnostic criteria for at least two different psychiatric disorders at a given point in time. It does not automatically imply causation. For example, as stated by Morisano et al. (2014, p. 10) concerning substance use disorders:

...substance use has been known to precede psychopathology in some cases, and follow the onset of psychopathology in other cases. Sometimes, the two appear simultaneously, and at other times, it is difficult to determine which came first.

More research is needed on comorbid disorders in larger samples of elite athletes in order to further understand the co-occurrence of different psychiatric diagnoses. This is important knowledge, as patients with multiple psychiatric diagnoses often suffer from more severe symptoms and health consequences than those with a sole disorder (Johansson et al., 2013). The psychiatric disorders found in this clinical cohort of elite athlete patients also correspond well with the six disorder-specific questionnaires that measure symptoms of disorders included in the Mental Health Recognition Tool 1 (SMHRT-1) (Gouttebauge et al., 2021).

High-performance coaches were also included in the clinical cohort, even if they are not the focus of this thesis. Nevertheless, the high level of stress-related diagnoses (72%) found in this group is alarming and may affect not only the coaches but also their athletes. Ironically, the expectation on high-performance coaches is often to put their athletes' well-being over their own (Olusoga et al., 2012), but this might add to their own stress and pressure to perform, which in turn have been connected to negative consequences for their athletes (Kenttä, Olusoga, & Bentzen, 2020). For the sake of both the coaches themselves and their athletes, more research focused on the coaches' well-being and mental health is therefore urgently needed, as this group has not received the same attention in mental health research as elite athletes have (Potts, Didymus, & Kaiseler, 2021).

When discussing the implications of the present study, it is important to remember the actual population included in the cohort: namely, elite athletes who have sought psychiatric treatment. In this regard, this study is a natural observation of what happens when this kind of elite sport-specialized treatment option becomes available to elite athletes within the public healthcare system in Sweden. One strength of the study is therefore its ecological validity. Nevertheless, the prevalence in the treatment-seeking population is likely not a direct reflection of the general population, as some disorders are more stigmatized (inhibiting help-seeking), and severe and acute conditions are likely referred directly to inpatient and/or other specialized care options in the public healthcare system. For more discussion on strengths and weaknesses, see Åkesdotter et al. (2022).

### *Implications*

- Anxiety disorders (69%) and affective disorders (51%) were the most common diagnostic groups found in the clinical cohort. Comorbidity between different types of disorders was common and present in almost one in two elite athlete patients (47%). It is therefore recommended that transdiagnostic preventive strategies and treatment strategies, like the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders (Barlow et al., 2017; Leonardo, Aristide, & Michela, 2021), be implemented and tested empirically in mental health work with elite athletes.
- The high prevalence of eating disorders in the clinical cohort, especially in female athletes (37%), makes this a prioritized area for future research regarding both prevalence in the Swedish elite athlete population and availability of treatment, as the high number of elite athletes with this diagnosis may also indicate an unmet need to find available treatment options for these disorders. The relatively low number of male athletes with an eating disorder should also be further investigated. Lastly, due to the high number of eating disorders (in female athletes) and substance use disorders (in male athletes), screening for these disorders, beyond the general measurement of symptoms of depression and anxiety, should be carried out for all athletes seeking psychiatric treatment.
- This study showed a somewhat different psychiatric panorama between high performance coaches (HPC) and elite athletes. Future research should continue to evaluate similarities, differences, and potential interactions between these two groups that may affect mental health, as the two at least to some extent share the same demanding elite sport context.

## Study III

The third study is a narrative analysis of elite athletes' stories of living with psychiatric disorders, with a focus on their choice to seek support, help, and understanding outside – rather than within – their elite sport environment. Five athletes, three females and two males on a national team level of performance, participated in life story interviews about their athletic careers and history of psychiatric disorders. They had all received treatment for at least one psychiatric disorder according to the diagnostic criteria in the International Statistical Classification of Diseases and Related Health Problems (ICD-10) (World Health Organization, 2009).

Life stories are “composed for particular audiences at moments of history, and they draw on taken-for-granted discourses and values circulating in a particular culture” (Riessman, 2008, p. 3). By witnessing the stories of these five athletes, focusing on their choice to seek external treatment, a great deal is revealed about the elite sport and what are seen as acceptable behaviors when one is suffering from a psychiatric disorder. This study therefore offers insights into the lives of elite athletes behind the public rhetoric of sport organizations. In addition, it offers a complement to the post-positivistic and medical approach often utilized in prior research. As noted by Vella et al. (2021) and also described by Pereira Vargas et al. (2021), the understanding of psychiatric disorders in athletes “focus[es] heavily on clinical presentation of symptoms and associated interventions, without acknowledgement of how athletes understand their mental illness experiences” (Pereira Vargas et al., 2021, p. 2). With qualitative methodology the social realities of elite athletes are explored, providing an opportunity to learn from their own perspectives and understandings (Sparkes & Smith, 2014). It is therefore important to incorporate these perspectives into various policy documents and action plans to aid mental health in elite sport (Vella et al., 2021). Furthermore, few studies have used narrative methods to explore life stories and the cultural influence of elite sport among elite athletes with established psychiatric disorders (evaluated by a licensed caregiver).

Even though stigma regarding psychological suffering and psychiatric disorders has been found to be the main factor hindering elite athletes from seeking psychiatric treatment (Gulliver et al., 2012), less is known about the everyday actions taken by elite athletes to avoid stigmatization. As noted by Peters (2010), qualitative methods can be particularly valuable for exploring complex phenomena like stigma in mental health research. Study III also focuses on what elite athletes themselves believe is the most important to tell us in regard to their experiences, which is an important perspective to incorporate in research. Finally, Study III also explores a new and important question. Instead of focusing on why elite athletes *don't* seek help for psychiatric disorders, the focus is on why they do tend to seek external help (Purcell et al., 2020; Åkesdotter et al., 2020), viz outside elite sport.

In this study the focus was on both the structure, e.g. the kind of story being told (structural analysis), and the content and recurring themes in and between the athletes' life stories (thematic analysis) (Riessman, 2008). The structural analysis revealed that all life stories followed the plotline of the performance narrative. Briefly, this narrative provides a blueprint of what it (presumably) takes to succeed in sport, describing a life of total determination to the pursuit of performance goals, placing sport over all other aspects of one's life (Douglas & Carless, 2015). For athletes this story is often amazing

if it works, but can become a dangerous companion if one's athletic career does not go as planned and various challenges arise (Carless & Douglas, 2013).

Even though the performance narrative has been investigated before (Douglas & Carless, 2015), limited attention has been given to the reinforcement pattern that is glimpsed behind the hold of this narrative on the lives of athletes. This is therefore elaborated on here, using some of the same quotes as in Study III. The athletes talk about the performance narrative almost like an addiction. In the beginning, as expressed by Elin, her motivation to participate in sport was driven by positive reinforcement:

...it started very clearly with, this is a place where I can exist the way I am. Here I get friends. Here I am liked. Here I am successful. So I put all my energy there.

This positive reinforcement is also evident in Martin's story:

To become faster and faster. Basically you get more friends the faster you are... everyone wants to...or more people want to be with you if you say that you are getting faster.

Over time, something happened to the initial joy of winning and performing, and another pattern of reinforcement started to emerge. For Elin, this shift was something like chasing a fix:

I won my first ... championship and got on the podium .... At this stage, everything was new, but later when you got to this point where you had already done all of that and you did it again, but it did not have the same effect. The fix was shorter, it kind of passed faster and faster.

According to the Urban Dictionary, a fix is a way to temporarily satisfy an addiction. Based on this "fix" metaphor, the athletes' investment in sport seemed to mimic the reinforcement pattern found in the addictive circle, with their performance strivings being the "drug", initially driven by positive reinforcement but later gradually shifting toward negative reinforcement (George & Koob, 2017).

From a behavioristic perspective, positive reinforcement involves a positive stimulus following a behavior (for example positive feedback, more friends, or recognition for winning). Negative reinforcement involves something negative being taken away (for example escaping negative feelings of low self-worth when performing well) (Skinner, 1953). Both these reinforcement patterns are present in a pedagogical model originally developed to describe the process of developing a drug addiction (George & Koob, 2017). In this model, the initial positive reinforcement shapeshifts over time to include more negative reinforcement in the form of relief from negative emotional states. For

the athletes, this unpleasant state that performance provided relief from was characterized by low self-worth. As exemplified by Martin:

The more competitions you win the more it becomes that if I don't win the next race, I am a loser. But if I win, I am okay.

Or by Elin:

I found a way to avoid these difficult feelings, I felt sufficient in the short moments when I won something.

The addictive metaphor also involves a habituation effect, whereby you need to “drink” (win and perform) more to maintain the same effect over time (George & Koob, 2017). Or, as described by Jonas:

And then you have to line up new results, and the better results you get the more results you have to achieve the next time to get at least the same feeling, and the better you become the harder it always gets to achieve this somehow.

This pattern of reinforcement may help explain the strong hold the performance narrative has on the lives of athletes. It might not be the constant striving for performance per se but its addiction-like hold on some athletes that diminishes other possible routes of action that is dangerous, especially in times of psychological suffering. This may also help explain the strong emphasis on the narrative of forward momentum that has been described as a master narrative in elite sport (Tamminen, 2022).

As expressed by Frank (2015), we should ask, “What does this typology do? For whom is it useful, to do what?”. And by extension, what are the short- and long-term consequences? For example, an athlete may not be able to take a break to restore herself if she does not have another story to go to, resulting in rigid and inflexible behaviors. Understanding what holds us to particulars may also act as a psychoeducational tool to help athletes reflect on *why* they exhibit certain behaviors, like hiding different forms of vulnerability or continuing to train despite negative consequences. As described by Sparkes (1998), if an athlete has limited narrative resources it is difficult to re-story the self and find alternative resources as guides in times of suffering. Stigma regarding psychiatric disorders could potentially be reduced if a broader narrative menu were available in elite sport. For example, the *zipper effect* narrative describes the ability to shift between mental toughness, a concept well aligned with the performance narrative, and self-compassion. Here, the two perspectives are seen as compatible and equally valid resources for success in sport that are helpful at different times and in under different circumstances (Wilson et al., 2019).

Challenging narratives is not easy, especially those that have a strong hold on athletes' lives. McLean and Syed (2015, p. 327) propose that narratives "keep running smoothly" as long as they are not challenged. For the athletes in Study III, the first time the performance narrative starts to create trouble for them is when they deviate from its plotline and a discrepancy is manifested between their own image of themselves and what is portrayed and valued as a "good athlete" in elite sport. The narratives that guide our lives are often invisible. For example, the performance narrative is the most commonly found one in elite sport (Douglas & Carless, 2015), and as it is everywhere and taken for granted it is hard to acknowledge it from the inside.

While the performance narrative has been investigated before (Douglas & Carless, 2015), less is known about the impression management strategies used by elite athletes to handle their everyday realities, especially while suffering from psychiatric disorders. The thematic analysis, focusing on the content in and between the athletes' stories, highlighted their use of different strategies to hide their psychological suffering. Interestingly, hiding their symptoms from others also seemed to make them more reluctant to acknowledge, even to themselves, that something was wrong (as seen in the theme *wearing a mask*). This could potentially be explained by the history of emotional invalidation commonly found in the athletes' stories (as exemplified in the theme *a vow of silence*). Invalidation is defined as (Zielinski & Veilleux, 2018, p. 1455):

...a social exchange during which an individual's expressed emotions or affective experiences are met with a response from another person that is perceived by the individual as implying that their emotions or affective experiences are incorrect or inappropriate.

Importantly, ignoring or not recognizing someone's suffering is also invalidation. This sends a message that when athletes share their psychological suffering, and their experiences are not validated, what they learn is that they are in the way, that they are reacting in a way that is not expected of an elite athlete, that they are presenting something that is not sufficiently significant to acknowledge, or that they are talking about experiences that are simply unacceptable in elite sport. This is exemplified in Elin's story, when she describes how others reacted when she decided to open up about her feelings in connection to the suicide of one of her close friends:

So, all right, [they thought,] 'She [i.e., Elin] is sad'—that was when I told them. But after that there was no one who dared to touch on it or ask 'Are you okay?' or something like that. It was just as if they pretended like nothing had happened because it was too inconvenient. ... And often in this culture, the way I understand it, you don't talk so much about it if you are going through a hard time. You just go for it. You think about other stuff. That might be their way of telling me 'This is how we deal with it, it might work for you too.'

In the statement above we can glimpse the socialization process into *wearing a mask* in Elin's description of how she understood the invalidation of her experiences as an example of how to deal with difficult times in sport: "*This is how we deal with it, it might work for you too.*" Indeed, "What may be of greatest interest in the life story is how people see themselves and how they want others to see them" (Atkinson, 1998, p. 20). This highlights the importance of coaches and other athletes being conscious of their own responses and learning to validate and respond to athletes' stories in an empathic manner even though it challenges the performance narrative and, in Elin's words, can make things "inconvenient". By shutting these stories down and not creating a space for vulnerability in elite sport, important information is lost. For example, when one is not open about one's own suffering to one's self and others, important information regarding personal needs, including the ability to learn from mistakes, can be lost, resulting in poor emotional awareness (Hägglund et al., 2019).

The concept of invalidation also highlights the need to not just "talk the talk" but also "walk the walk" when it comes to supporting athletes with mental health problems and, even though it might feel uncomfortable, the importance of sometimes challenging the performance narrative in elite sport. The same culture of silence has also been found among coaches suffering from psychiatric disorders. For example, a study by Roberts et al. (2018) used a storytelling approach to portray the lived experiences of an elite sport coach suffering from alcohol misuse and depression, and how the coach hid these disorders from professional colleagues in elite sport.

One interesting finding is the use of alibis. Here a traumatic event, often apart from the psychological suffering, creates an opening to share one's vulnerabilities and psychological suffering if the traumatic event is severe enough to avoid stigmatization. For example, as described by Martin regarding a severe injury that resulted in his hospitalization: "*At that stage it was suddenly accepted from the outside — 'Of course, now he should go to a psychologist when he's been hurt like that and can't compete'*". Alibis seem to work the best if they are based on external events outside the athletes' control (e.g., not reflecting their own shortcomings), like severe injury, cancer, or the suicide of a close friend. Unfortunately, this leaves help-seeking up to chance if a severe enough alibi occurs. It seems as if, for some athletes, finding an alibi gives them a legitimate reason to seek psychiatric treatment; and when they already have this contact, they can – in the safe, confidential space together with their therapist – open up about other challenges as well.

Even though Study III focuses on similarities in and between life stories, all experiences of psychiatric disorders have their own unique form and trajectory (Bruin & Oudejans,

2017). For example, previous research has highlighted injuries or performance slumps as potential risk factors for experiencing symptoms of psychiatric disorders (Kuettel & Larsen, 2019). At the same time, the example of a biographical mapping method included in Study III shows the life story of one elite athlete in which mental health and performance are negatively correlated. This pattern was not found in the other athletes' life stories, but serves as an important reminder that all stories are unique, and even though performance slumps often entail a risk factor for poor mental health in athletes, some athletes also suffer when things go well.

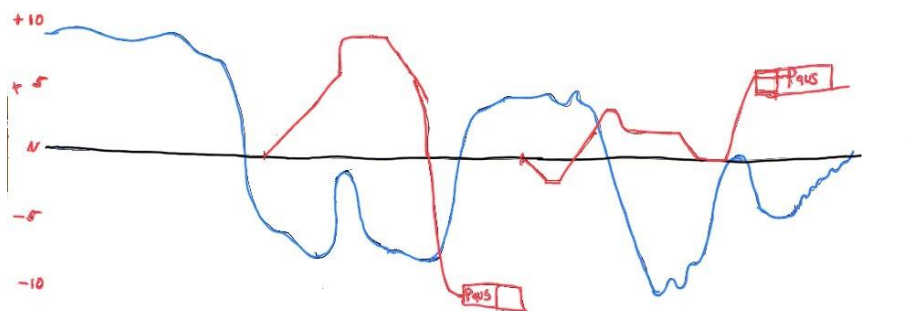


Figure 2: Example of a participant's biographical map (Red=sporting career; Blue=mental health; N=timelines and neutral baseline. (Names of key markers removed to maintain anonymity.)

The focus in this study is on narrative truth (Kim, 2016, p. 16). According to Riessman (2008, p. 186), “narrative truths are always partial, committed and incomplete”. The ways the athletes in this study make meaning from living with their psychiatric disorders are therefore seen as reflections “on and not of” these experiences (Riessman, 2008, p. 186). One of the strengths of life story research is that it allows people to reflect on their experiences and tell their stories from a “vantage point that allows them to see their life as a whole, to see life subjectively across time as it all fits together...” (Atkinson, 1998, p. 5) and invite others to learn from these experiences.

To support the theoretical claims here, confirmability, credibility, and dependability were important. Confirmability is connected to the use of rich data from the athletes' stories, with the purpose of demonstrating how the phenomenon under discussion appears in the data themselves (Burke, 2016). To address credibility, questions were asked regarding how suitable the method was for addressing the phenomenon at hand (Burke, 2016). A simple answer is that if we want to know more about how elite ath-

letes navigate their lives while suffering from psychiatric disorders, a good start is to invite them to tell their own story. Due to the sampling of elite athletes from the patient records of an open psychiatric clinic, all athletes included here had a confirmed history of a psychiatric disorder. Looking at dependability, three to six months passed between the two interviews, demonstrating a stability of the storyline over time (Burke, 2016).

Life story research usually has a smaller number of participants, as the focus is on quality rather than quantity in narrative data. Saturation was reached, in that both depth and breadth of the stories were achieved, and ultimately a library of unique, complex stories worthy of attention were obtained (Kim, 2016, p. 161). In hindsight, a balanced number of male vs. female participants would have been preferred. With a structural and thematic analysis, important questions concerning to whom and with what purpose a story is told shift out of focus (Riessman, 2008, p. 59), and should be explored in future research. Other forms of narrative inquiry, for example dialogical/performative (Frank, 2013; Smith & Sparkes, 2009a), may provide other important insights. From a practical perspective, it was helpful to use a biographical mapping method (Schubring et al., 2019). This helped me as a researcher to locate the athletes' stories in place and time, and provided a natural pause in the interviews, giving the athletes some personal time to reflect while drawing.

In conducting qualitative research, more than simply reflecting on our observations we also need to reflect on how we are reflecting on these observations, in the process of telling "the story of other stories" (Schiff, 2017, p. 144). I was responsible for conducting and transcribing the interviews. Experience, theory, and interpretation are naturally intertwined with everyone involved, and certainly with my own background as a former elite athlete and with training in psychotherapy (CBT), working with MHP and performance enhancement in elite sport. With another background and different training it is likely that my own understanding and interpretation would be different. Theoretical resources were drawn from various sources, in the hope to create a dialogue between the athletes' stories, theoretical concepts and personal and professional knowledge (Kim, 2016). The aim is not to close the dialog but to provide an example of how these findings can be understood. I hope these reflections are continued rather than finalized, as learning from shared experiences is a driving force between theory and practice (Kim, 2016, p. 30) and is needed to create a wider and more healthy understanding of what it takes to become successful in elite sport.

Study III shows how the belief system and culture in elite sport impact athletes with psychiatric disorders, making them wear a mask, be covered by a vow of silence, and need an alibi to be able to express their experiences within elite sport. Consequently,

these athletes become skilled users of different expression management strategies to hide their suffering from others and potentially also from themselves. Against this backdrop, seeking treatment outside elite sport was not surprising as their stories of psychological suffering were deemed untellable in elite sport.

### *Implications*

- All stakeholders working with elite athletes, such as psychiatrists, coaches, and medical doctors, should be aware of impression management strategies commonly used by elite athletes (e.g., *wearing a mask* to hide psychological suffering, adhering to a *vow of silence* regarding such issues in elite sport, and the *need for alibis* to portray suffering or vulnerabilities) and the strong stigma still surrounding such issues in Swedish elite sport contexts.
- Based on the extensive use of impression management to hide psychological suffering, not knowing any athletes with mental health problems or psychiatric disorders is poor evidence for coaches, medical teams, and other stakeholders that these challenges do not exist in their clubs or national teams.
- Training in the validation of psychological suffering and education regarding the negative consequences of invalidating athletes' affective experiences should be incorporated into mental health literacy programs, and further evaluated in research, to open a dialog between coaches, medical teams, and athletes regarding psychological suffering and mental health. Hopefully, this could create a more open climate regarding psychological suffering in elite sport.
- Sport organizations should inform and remind elite athletes of the possibility to seek psychiatric treatment by self-referral within Sweden's public healthcare system, as this may offer aid by providing treatment options without informing the national teams if these stories are deemed untellable by many athletes within the elite sport context.

## Study IV

Study IV is a poetic representation based on life story interviews with one elite female athlete, "Lisa" (pseudonym), with a diagnosed eating disorder. Lisa was also one of the athletes who participated in Study III.

The first poem, *All the little pointers*, describes how Lisa felt that group dynamics and negative body evaluations and talk about weight and shape influenced her as a young athlete and contributed to the development of her disorder. This poem also touches on pride at adhering to behaviors associated with eating disorders, a theme rarely discussed publicly by athletes. The poem highlights teammate influence, negative body evaluations, social pressure, and the contagious effects of eating disorders within elite sport (De Bruin & Oudejans, 2018; Scott, 2019; Stoyel et al., 2020). Lisa's story also links to the shame-pride cycle that has been described as a contributing factor in the maintenance of disordered eating in the general population (Goss & Allan, 2009).

The second poem, *The voice inside my head*, explores the mental impact of eating disorders and shows how the voice of the disorder starts to dictate the life of those who are affected (Gaudiani, 2018; Pugh & Waller, 2017). In this poem we also glimpse the dismissive *just fine* and *not sick enough* narratives commonly found in eating disorder patients (Gaudiani, 2018; Plateau et al., 2017). In Lisa's story, the performance narrative is a third example of the dismissive narratives used by athletes to maintain their disorder by adhering to a plotline of *doing what it takes* to be successful in sport (Douglas & Carless, 2015). The same narrative has also been found in previous research with elite athletes with eating disorders, noted for example by Bruin and Oudejans (2017) and Busanich, McGannon, and Schinke (2012). This is not surprising, as the performance narrative is the most common plotline informing the majority of elite athletes' life stories (Douglas & Carless, 2015). Nevertheless, this narrative might be an especially dangerous companion to athletes with eating disorders, as it provides yet another motivation and justification for continuing pathological behaviors in the name of performance gains. Eating disorders may therefore stay hidden in elite sport, as pathological behaviors in connection to eating and training may be excused, normalized, and even reinforced in the elite sport context (Thompson & Sherman, 1999).

The third poem, *Turning it around*, describes Lisa's challenging road toward recovery and finally achieving a sense of freedom from the voice of her disorder. These stories could play an important role in highlighting that recovery is possible (Eddy et al., 2017), and at the same time present a plotline and offer increased understanding of the sometimes winding road toward recovery (Eaton, 2020).

Although research regarding psychiatric disorders and eating disorders in elite athletes has increased greatly in the last 20 years (Reardon et al., 2019), some important gaps still exist. For example, in a recent review concerning the mental health of female athletes, Perry et al. (2021) noted that 83.3% of the included studies were quantitative using a cross-sectional design, and voiced a call for greater methodological diversity,

including a focus on lived experiences and narrative inquiry. This call has been heard before in eating disorder research, with the one-sided focus on quantitative research based on the medical model being accused of creating a narrow research base for how eating disorders are understood in elite sport (Papathomas & Lavalley, 2012). The use of narrative methodology has also been suggested as a good tool to counterbalance the dominance of the medical model in research regarding the mental health of elite athletes (Pereira Vargas et al., 2021). Narrative methodologies share a focus on stories, and have been found to be particularly useful in exploring the movement within psychological processes over time (Schiff, 2017, p. 138). This methodology therefore provides an opportunity to witness the lived experiences of developing and seeking treatment for an eating disorder over time, providing an important complementary description of these experiences outside the diagnostic criteria. Importantly, it also shows the dynamic process of many psychiatric disorders. This is of course not a new reflection – see Keyes (2014), for example – but poems following the trajectory of mental health experiences offer a unique opportunity to glimpse these real-life variations in condensed form.

In the general population, narrative studies of psychiatric disorders, treatment, and recovery have also been highlighted as a valuable resource for educating clinicians that can also be used to facilitate dialogue between different patient groups and their care-takers (Rhodes & De Jager, 2014). The importance of incorporating elite athletes' own perspectives and of learning from “lived experiences” in research and policy have also been recently highlighted by Thornton and Richards (2022).

An important extension of eating disorder research is to raise awareness and increase eating disorder literacy. Recent position statements clearly point out the need for everyone in sport to acknowledge and act on symptoms and risks associated with eating disorders and poor body image in athletes (Wells et al., 2020). In contrast, sport coaches have been found to be no better than non-coaches at identifying eating disorder symptoms in athletes (MacPherson et al., 2022), and a stigmatizing view of athletes with eating disorder symptoms has been found among athlete support personnel (e.g., coaches, physiologists, physiotherapists). For example, compared to athletes with symptoms of depression, athletes with eating disorders were seen as more responsible for their own condition and more likely to use their illness as an attention-seeking strategy (McArdle, Meade, & Burrows, 2018).

It is therefore urgently necessary to find ways to increase eating disorder literacy and reduce stigma. As described above, narrative methodology could be a helpful resource in this. Presenting data in new ways outside the traditional realist tale may also help others outside academia to more easily engage with the findings. In Study IV, creative

analytical practices (CAP) in the form of poetic representation are used to present the data. One of the benefits of CAP is that “the complexity of lived experiences is brought to the fore” (McMahon, 2016, p. 302). This applies particularly to poetic representation, as it has been found that it “efficiently communicates a study’s findings whilst conserving their complexity” (Brown, Kelly, & Finn, 2021, p. 259). A deeper exploration and understanding of elite athletes’ own unique eating disorder trajectories may also inform and guide therapists treating athletes with these disorders (Bruin & Oudejans, 2017). Sparkes and Douglas (2007, p. 186) used poetic representation to describe the life experiences of one elite female golfer, and noted that:

The ways in which the participants, students, teachers, coaches, and others have reacted to her poems suggest that they work on a number of levels ranging from the emotional to the pedagogical.

In medical education, poems have been used for “centering patient narratives, engendering empathy amongst trainees, and facilitating reflective practice” (Brown et al., 2021). Poems also involve a literacy criterion, whereby the writer tries to portray the essence of what it is like to live someone else’s life (Sparkes, 2002). Previous research has shown that poems can have the power to evoke various responses, reflective practices, and empathic understanding in the reader (Sparkes & Douglas, 2007). For those living with a psychiatric disorder, poetry can serve as a bridge between those who are suffering and those who are not, inviting others to witness what it is like for a specific person to live with a psychiatric disorder such as an eating disorder, depression, or psychosis (Lashewicz & Ajmal, 2013).

In practice, the poetic representations of Lisa’s experiences can be used to invite reflection, by asking questions like “What can I learn about athletes with eating disorders by witnessing Lisa’s experiences?” and “What are the implications of her story in my own practice?”.

The aim of presenting reflections on how something can be understood in light of previous research is not to present a final answer or “epic closure” (Kim, 2016). On the contrary, the goal is to invite the reader to have their own reflections and evaluate the poems from their own unique vantage point and expertise (Sparkes & Smith, 2014, p. 162).

Importantly, not all research can become poetry (Sparkes & Smith, 2014). In Study IV, this move was motivated by the richness of Lisa’s data, the depth and detail of her story, and the fact that she was happy for her life story to be portrayed in poetic form. Lisa

herself also hoped that her story would be a helpful resource for others, as noted by Frank (2013, p. 17):

People tell stories not just to work out their own changing identities, but also to guide others who will follow them. They seek not to provide a map that can guide others, each must create his own – but rather to witness the experience of reconstructing one’s own map.

At the same time, as described by Sparkes and Douglas (2007, p. 187):

...using poetic representations in an area dominated by scientific and realist tales is not without its professional risks. This is particularly so in terms of the legitimacy granted to it as a form of inquiry and as a way of communicating the findings of a study.

Taking the stance of a storyteller instead of a story analyst (Sparkes, 2002) is also a risky choice, even in qualitative research. To the research group’s knowledge, this is the first time a poetic representation has been used to present the lived experiences of an elite athlete suffering from – and seeking treatment for – an eating disorder. McMahon (2016, p. 303) also notes that using CAP is “not without some risks and weaknesses”, especially as this doesn’t follow the traditional criteria for how to conduct research. Besides the risk of not being seen as a legitimate form of inquiry, questions have also been raised about disclosure issues associated with the writing and presentation of highly personal experiences (McMahon, 2016). For example, how would Lisa’s coach react to being part of a poem and being portrayed according to Lisa’s narrative truth, without signing informed consent or being invited to present his or her version of the events? How would her fellow athletes, who according to Lisa also suffered from eating disorders, react? In Study IV, concerns about this risk of disclosure are addressed by removing “certain features and details” that could lead to the direct or indirect identification of Lisa or others described in her life story (p. 304). Nevertheless, these are important questions to consider when publishing highly personal material such as life stories.

As described under *Ethical considerations* in this thesis (pp. 50-52), procedural ethics always involve these kinds of balanced evaluations between research gains versus the risk to the athletes who participate. Important aspects of procedural ethics involve ensuring confidentiality and obtaining informed consent at all stages of the research process (World Medical Association, 2013). To ensure confidentiality, some aspects of Lisa’s story have been removed. For example, her sport, exact age, family relations and the international championships or medals she has won while representing the Swedish national team are not revealed. This means some important aspects of Lisa’s story may be lost; but at the same time, without this cloak of anonymity we would likely not have

been invited to witness her experiences on such a deep level, especially as she is still active in her sport. This also links to an important area of future research.

In Studies III and IV in this thesis, using life story interviews and narrative methodology, structural (How are the athletes' stories organized?) and thematic (What are the athletes' stories about?) narrative analyses were conducted (Riessman, 2008). These are not the only forms of narrative analysis available (Smith & Sparkes, 2006, 2009a, 2009b). For example, a performative narrative analysis of the stories told by elite athletes suffering from psychiatric disorders could yield important insights. In the case of Lisa's story, this form of analysis poses questions like: In what context is Lisa's story presented, and how does it affect the story being told? According to Riessman, (2008, p. 105), "Stories don't fall from the sky". For example, in this kind of analysis Lisa is performing her story, at a specific point in time and for a specific audience. For example, what would have happened if her national team coach had been in the same room? As all stories are "performed, composed and received in contexts" (Bengtsson et al., 2020, p. 275), a different audience would likely change some aspects of her story. Further investigations regarding how elite athletes' stories of mental illness change depending on the audience present (performative analysis) could therefore constitute an important area for future research.

As described in the *Ontological and epistemological assumptions* chapter in this thesis (p. 46), the criteria for judging the quality of research adhering to a relativist and subjective epistemology differ from that used in research based on post-positivistic objectivist epistemologies. In the relativist tradition, criteria need to be considered in connection to the unique features and aims of the particular project, rather than being viewed as universal laws (Smith & McGannon, 2017; Sparkes & Smith, 2014). For example, some of the following questions, summarized by Burke (2016, pp. 335-336), might be helpful in judging the poetic representation of Lisa's experiences:

- Substantive contribution: Does this piece contribute to our understanding of social life?
- Impact: Does it affect me? Emotionally? Intellectually?
- Creditability: Has the researcher spent a significant amount of time with the participants? Were participants' reflections on the researcher's interpretations of the data sought?

The questions above, and other questions within the relativist approach of judging quality, can be used for all forms of qualitative research and presentation. But what about poems? Do you have to be a poet to write a poetic representation? According to Sparkes

(2020, p. 43), “poetic representations can be viewed as *not-quite poems* or *poemish* and still accomplish their representational task”. He also describes that, even though poems may be perceived as inferior in regard to literary standard, they may still work if they have the capacity to move the reader on different levels “from the pedagogical to the emotional” (p. 44). Thus, whether a poem works is to some extent up to the reader. In Study IV, the three poems constituting Lisa’s life story were shown to two other members of the research team who took the stance of critical friends (Sparkes & Smith, 2014), reflecting on whether the poems “worked” on different levels, also with a specific focus on the translation from Swedish to English. The poems were also shown to two elite athletes (one a native English speaker), who thought they offered a deeper understanding of the lives of elite athletes in general and of eating disorders in particular. Importantly, the poems were also shown to Lisa, who felt they represented her experiences fairly and accurately.

In presenting Lisa’s story as a poetic representation, no claims are made that they cover all aspects or risk factors involved in the development of an eating disorder. Each athlete who develops an eating disorder has his or her own unique trajectory and combination of risk factors (De Bruin & Oudejans, 2018). In contrast, our aim was to stay true to Lisa’s narrative truth, focusing on what she felt was important for others to understand about her experiences (Riessman, 2008). Nevertheless, Lisa’s story provides a unique and rarely explored opportunity to witness the development, maintenance, treatment, and complexities of living with an eating disorder from the perspective of someone who has lived through it.

One potential criticism is that Lisa is a very typical case, a female elite athlete with an eating disorder. For context, in Study II in this thesis, Åkesdotter et al. (2022) found that among female elite athletes on a national team level (just like Lisa) within psychiatric treatment, 37% were diagnosed with at least one eating disorder. (This critique of typical cases is also somewhat relevant to Study III, e.g. including a female athlete with an eating disorder and a male athlete with ADHD.) This can also be interpreted as a strength, as Lisa represents a commonly found group of elite athlete patients in psychiatric treatment whose lived experiences are important to acknowledge as they represent a large patient group. At the same time, case studies work particularly well in presenting the experiences of minority groups (Yin, 2014), who from a marginalized perspective may have received less attention in research. I believe it is important for future research to also include less typical stories of living with psychiatric disorder in elite sport.

In the future, the usefulness of these and other poems describing psychiatric disorders as a pedagogical resource should be evaluated more deeply. From a personal perspective,

as noted by (Sparkes, 2002), how we write affects our understanding of the phenomenon being investigated. Different forms of writing provide different forms of insights. Here, the actual process of writing the poems was part of the analysis. A personal reflection is that this helped me to get away from the constant abductive process and just listen to Lisa's story, instead of always linking what I was hearing to previous research. These connections were therefore mainly made after the poems were constructed. Here follows a short reflection on how the use of poetic representation helped me as a researcher to view Lisa's story in a different light:

Using a creative and poetic form made it easier to disconnect from the theoretical process in my mind of constantly moving between theory and data. Just listening to Lisa's story and wanting to represent it in a fair way, without the need to motivate each move on inductive or deductive processes, helped me engage with her story on a deeper level. At this stage it was not about 'this part of her story connects to this research' but more 'this is what happened to Lisa; she faced these challenges, this confusion, this illness, in this unique way'.

Inckle (2020) also describes how the choice to use poetic representation, in the form of (I) poems to represent her research with disabled cyclists, helped her engage with the data in-depth and from multiple perspectives compared to using more traditional analytical methods.

### *Implications*

- Lived experiences of psychiatric disorders presented using poetic representations could potentially be a valuable pedagogic resource, and the utility of using poems to increase mental health literacy in elite sport should be evaluated in future research.
- Eating disorders and psychiatric disorders are not things that simply fall from the sky, i.e. "one day you have it and one day you don't". Presenting the temporal flow of developing, living with, and seeking treatment for a psychiatric disorder from the viewpoint of an athlete who has lived through this provides an important complement to the description of psychiatric disorders outside the medical model and diagnostic criteria.
- Understanding the workings of *the voice* of an eating disorder could play an important role in reducing stigma and increasing empathy in regard to athletes with eating disorders. This voice can be extremely cruel, dictating the rules for and the lives of elite athletes with eating disorders. Some athletes may come across as manipulative (e.g., lying, complaining during treatment and conver-

sation). It is important to remember that this is likely a sign of the illness itself, instead of blaming the athlete for their behavior.

# General discussion

The purpose of this thesis was to explore and learn more about psychiatric disorders in Swedish elite athletes. A more detailed discussion of and elaboration on the results, strengths, and weaknesses of each study can be found in the *Results and discussion* sections covering each study (pp. 54-83). This general discussion is broader, focusing on reflections based on the thesis as a whole.

One of the merits of the research in this thesis is that a first study of prevalence rates of established psychiatric disorders, symptoms of disorders, and MHP in the Swedish elite context is now available and can be used to motivate future research regarding the mental health of Swedish elite athletes. These numbers can also provide an important humanizing aspect, showing that even the best of the best athletes in Sweden (e.g., representing national teams) sometimes suffer from MHP and psychiatric disorders. Prevalence studies can also be a first step in highlighting especially vulnerable groups (Study I).

Furthermore, this project includes the first descriptive overview of a clinical cohort of elite athletes within psychiatric treatment. As previous research on elite athletes with established psychiatric disorders is sparse, this study (II) offers important insights for those working with psychiatric treatment regarding the psychiatric panorama in elite sport. These results can also be used to promote future research, for example investigating the usefulness of treatment protocols for elite athlete patients with comorbid disorders, like the unified protocol (Carlucci et al., 2021), as comorbidity between psychiatric disorders seems to be common in this population as well.

More so than previous studies, Study III is focused on the impression management strategies employed by elite athletes to handle the everyday realities of living with a psychiatric disorder. While stigma regarding those suffering from psychiatric disorders is well known in both the general population and elite sport, less is known about how it influences elite athletes' actions and behaviors in their everyday lives. This information is important for increasing mental health literacy in elite sport.

Lastly (Study IV), taking the stance of storyteller, presenting the lived experiences of one female elite athlete living with an eating disorder in the form of three poetic representations, has never been done before. Moving beyond presenting research as a traditional realist tale has the potential to make research findings more accessible and understandable for consumption outside the academic community. This study also shows in condensed form the temporal changes, ambiguity, and complexities involved with living with an eating disorder.

Recruiting elite athletes for research purposes is notoriously difficult. First, they are often hard to access. Secondly, they need to make hard prioritizations regarding their time and investments. One overall strength of this thesis is therefore that only elite athletes with a history of national team representation are included in Studies I, II, III, and IV. As recruiting athletes on this level of competition is challenging, it was not possible to maintain the exact same inclusion criteria across all four studies.

In Study I, two years of applications for a scholarship grant available to national team athletes were used for recruitment. All athletes were thus currently active in their sport (confirmed by a direct question in the survey) and had a history of national team representation within the preceding three years. The use of the three-year criterion is explained by the fact that two years of scholarly applications were needed to ensure a sufficient number of participants.

In Study II, as it was a total investigation, the same criteria for meeting the requirements to receive treatment at the psychiatric clinics included in the descriptive overview were naturally used as inclusion criteria in the study. The criteria for being eligible to receive treatment were: national team representation within the preceding two years, and at least one diagnosed psychiatric disorder according to the diagnostic manual ICD-10 (World Health Organization, 2009). Importantly, athletes who had retired within the preceding two years could also receive treatment and thus be included.

In addition, a low number of paralympic (para) athletes were included in Studies I and II. (No para-athletes were included in Studies III or IV.) In this thesis, para-athletes were included just like any other athlete representing a national team. A recent study comparing the prevalence rates of symptoms of psychiatric disorders between non-para-athletes and para-athletes generally found no difference between the two groups (Olive et al., 2021). Swartz (2022) also notes the importance of treating para-athletes like all other elite athletes, but also highlights that athletes with disabilities are not yet fully included in sport or society.

In Studies III and IV, as athletes were recruited from one of the clinics included in Study II the same eligibility criteria were applicable. Five athletes were recruited to participate in life story interviews. All were currently active, except one who was “on a break” from training and competitions.

The difference in sample characteristics between the studies is not optimal, and should be considered when interpreting the results and comparing them with previous research. The exact same eligibility criteria do not have to be included in all studies, although this is desirable. The various inclusion criteria are also described in each study. Importantly, all athletes included in the thesis had a recent history of representing a national team and therefore represented the best in their country in their respective sports.

### *Studies I and II*

Due to the broad, comprehensive approach in this thesis some delimitations had to be made.

First, this project is based on the medical model for mental health research (Lundqvist & Andersson, 2021), in which the focus is on psychiatric disorders according to the clinical definitions in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychiatric Association, 2013) and the International Statistical Classification of Diseases and Related Health Problems (ICD-10) (World Health Organization, 2009). Other aspects of mental health in elite sport, such as including a broader continuum (Keyes, 2002), wellbeing (Lundqvist, 2011), or the inclusion of a more holistic approach (Henriksen, 2020), are therefore not considered. I believe these perspectives are important, but they are outside the scope of this thesis.

Second, no subgroup analysis besides sex difference was performed in the quantitative studies (Studies I and II), motivated by a significant number of analyses already being carried out in the demographic descriptions. This would be interesting to address in future research, especially in different age groups of athletes – as Study I found that ages 17 to 21 may be a particularly vulnerable time – and in athletes from different socioeconomic backgrounds.

Third, as written in the prologue of this thesis (p. xi), my initial research questions tended to be explorative and descriptive, as I wanted to gain a broad understanding of the mental health of elite athletes in Sweden. The focus was therefore on presenting a first view on prevalence (e.g., established psychiatric disorders, symptoms of disorders, and MHP) and lived experiences, rather than on etiology or risk factors. As described in the

*Background* section (see p. 21), mental health is influenced by not only individual but also sport and environmental factors (DeFreese, 2017; Reardon, 2022). It is important to learn more about this complex interplay in order to advance the field, and future studies should be directed at evaluating predictors or correlates in psychiatric disorders. For example, Timpka et al. (2020) have found that in Swedish female elite athletes in track and field, suicidal ideation was associated with having a history of sexual abuse. Another interesting area to explore in future research is the interaction between perfectionism (Egan, Wade, & Shafran, 2012) and psychiatric disorders in elite athletes.

Fourth, the COVID-19 pandemic, which began during the work with this thesis, had a huge impact on the lives of many people, including athletes. Study I was conducted before the outbreak, as were the interviews that form the basis of Studies III and IV. The descriptive overview of elite athletes seeking psychiatric treatment (Study II) includes all cases from February 2015 to May 2021. Thus, athletes who sought treatment during the outbreak and first years of the pandemic are included. This is reflected on in the discussion regarding Study II (p. 61). As the pandemic did not affect most of the studies in this thesis, it was not relevant to include questions regarding COVID-19 as a major part of the project.

These delimitations do not mean that the research areas listed above are not important; on the contrary. I see this thesis as laying the first bricks in building a deeper understanding of psychiatric disorders within Swedish elite sport that will motivate future research.

### *Studies III and IV*

Studies III and IV explore elite athletes' lived experiences of psychiatric disorders, using life story interviews and narrative methodology. Qualitative research typically aims to create a deeper understanding of a social phenomenon or event (Sparkes & Smith, 2014). As described in the *Methodology* section (p. 46), these studies adhere to a relativist ontology and a subjectivist and social constructionist epistemology (Guba & Lincoln, 1994).

Social constructionism and relativist ontologies need not deny the existence of an objective reality (Sparkes & Smith, 2014), "but [decide] to concentrate on investigating the social influences on communal and individual life" (Galbin, 2014, p. 82). This includes taking a critical stance regarding taking knowledge for granted, acknowledging that different phenomena are viewed and influenced by specific cultures and periods in history, and adhering to a view that how we make meaning of different experiences is

sustained by social processes (Burr, 1995). Importantly, this entails “challenging most of our commonsense knowledge of ourselves and the world we live in” (Galbin, 2014, p. 83); for example, our stories and predispositions as to what it takes to become a (successful) elite athlete.

Studies III and IV challenge the performance narrative as always being a good companion to elite athletes, and speaks of its dangers under certain circumstances. For example, in elite athletes with psychiatric disorders (Study III), the performance narrative “frame[s] the lives of the athletes by producing a single-minded focus on performance outcomes that justifies, and even demands, the exclusion of any form of psychological weakness or vulnerability” (p. 1). This in turn contributes to the stigmatization of psychiatric disorders in elite sport that has forced elite athletes to use different impression management strategies to hide their psychological suffering, e.g. *wearing a mask* to hide any sign of weakness, adhering to a *vow of silence* by not talking openly about such issues in elite sport, and using *alibis* as one potential outlet to show suffering in an acceptable form. This also makes it hard to seek help, support, and understanding, and leaves help-seeking to chance, for instance if a good enough alibi present itself. In addition, Study IV shows that the performance narrative can pose a specific danger to athletes with eating disorders as it can be used as yet another dismissive narrative, commonly used by eating disorder patients, to justify their behaviors and downplay the severity of their symptoms (Gaudiani, 2018); for example, justifying pathological eating and training behaviors as training routines and commitment to sport that are necessary in order to be successful (Freedman, Hage, & Quatromoni, 2021).

This is not to say that the performance narrative is always a bad companion to elite athletes. For those who are ultimately successful it is likely wonderful, but perhaps not forever, as seen in the description of the habituation effect in the discussion regarding Study III. In sum, the performance narrative is likely a good companion when things go well, the athlete is in a good place in life, and performance is forthcoming. Importantly, stories can be both good and dangerous companions, depending on the time and context (Frank, 2010). Therefore, for athletes, the same story that helped them succeed can also be what breaks them apart. In Studies III and IV, it seems that the danger of the performance narrative is its ability to overtake all other narratives, resulting in rigid and inflexible behaviors. Over time, it becomes increasingly difficult for the elite athlete to see any other way of doing things, making it harder to adapt to the demands of new circumstances in life. As stated in the reflections regarding Study III, it might not be the performance narrative per se that is dangerous for athletes but rather its addiction-like hold on elite sport, allowing no other stories to compete. The importance of stories as resources has also been described by Smith and Sparkes (2009a, p. 280):

Further, stories are important resources that act for and on people as the more stories we have access to, the more potential opportunities and flexibility we may have to live in different and more meaningful ways, if the needs and circumstances arise. That is, with multiplicity come more possible openings for restorying our lives and expanding our sense of who we are and could be. In such ways, then, our access to multiple stories is important as the possibilities for living differently and taking care of ourselves and others is enhanced.

This is why it is suggested in Studies III and IV that other narratives can be introduced that might serve as good – rather than dangerous – companions at specific times in life, for example when suffering from psychiatric disorders, including eating disorders. Following this advice, more of us who work in elite sport need to challenge the sole dominance of the performance narrative and start asking questions, as advised by Frank (2010): Is this story a good companion to this athlete, at this point in their lives and athletic career?

In Studies III and IV, the analysis was directed at understanding the structure and content of athletes' stories of living with psychiatric disorders (Riessman, 2008). In the future, exploring the performance aspects of stories regarding psychiatric disorders in elite sport could yield important insights (Smith & Sparkes, 2009a) into how elite athletes frame their stories of psychological suffering and psychiatric disorders in different contexts.

If this thesis questions the hold of the performance narrative on elite sport and highlights its dangers, why does it not also challenge and critique the medical model of what constitutes a psychiatric disorder? It is certainly not without its critics (for a short overview, see the discussion in this thesis on p. 24), especially as taking a social constructionist standpoint also entails changing perspectives. As expressed by Boghossian (2001, p. 1):

To say of something that it is socially constructed is to emphasize its dependence on contingent aspects of our social selves. It is to say: This thing could not have existed had we not built it; and we need not have built it at all, at least not in its present form. Had we been a different kind of society, had we had different needs, values, or interests, we might well have built a different kind of thing, or built this one differently.

The pragmatic answer is that the focus in this thesis is not on deconstructing or challenging the view of what constitutes a psychiatric disorder from a social constructivist perspective. The focus is on elite athletes. This thesis therefore sticks with the realist approach regarding what constitutes a psychiatric disorder.

Nevertheless, the critique of the performance narrative also implicitly offers a critique of the medical model as a whole, as the performance narrative shares many aspects with the master narrative in the medical world, the restitution narrative (Frank, 2013). The basic plotline in the restitution narrative is “something is wrong (illness/injury) – get it fixed – have a good life (again)”, and in the performance narrative “get through the pain and challenges – get it done (perform) – have a good life” (Douglas & Carless, 2015). There is always a magic bullet. “Fix it/suck it up – keep going – everything will be good”. These narratives promise something not everyone can achieve, and leave little room for self-compassion as they also revolve around controlling the body and denying suffering and vulnerability (e.g., get it fixed). This can make them both good and bad companions to elite athletes, depending on the various contexts and challenges they face.

# Conclusions

This thesis has shown that:

- At least one prior psychiatric disorder assessed by a licensed professional was reported by 8.1% of Swedish elite athletes (Study I).
- First onset of MHP in Swedish elite athletes occurs within the age range of 17–21 years. This corresponds to a time of major life changes for young athletes, like finishing high school and the transition from junior to senior competition in many sports (Study I).
- Over 50% of Swedish elite athletes reported a history of MHP, defined as suffering so severe that it affects daily functioning for >2 weeks, and it was common to have a history of two or more episodes (Study I).
- The sport-specific instruments (the Athlete Burnout Questionnaire (ABQ) and Competitive State Anxiety Inventory-2 (CSAI-2)) do not have sufficient diagnostic properties for practical use in detecting clinical symptoms in elite athletes (Study I).
- Anxiety disorders (69%) and affective disorders (51%) are the most common diagnostic groups found in a clinical cohort of Swedish elite athletes seeking psychiatric treatment (Study II).
- Comorbidity between different types of disorders (anxiety disorders, affective disorders, eating disorders, and substance use disorders) was common, present in almost half of the elite athletes in a clinical cohort (47%) (Study II).
- Eating disorders were highly prevalent in female elite athletes in a clinical cohort (37%), and substance use disorders were commonly found in male elite athletes in psychiatric treatment (14%). Screening for these disorders is recommended for all athletes seeking psychiatric treatment (Study II).

- Elite athletes and HPC seeking psychiatric treatment present a somewhat different psychiatric panorama even though they to some extent share the same demanding elite sport context (Study II).
- When elite athletes tried to open up about their psychological suffering in elite sport, they were often met with invalidating responses (e.g. being dismissed or met with a response indicating that their reactions were wrong or inconvenient), resulting in a *vow of silence* surrounding such issues in elite sport (Study III).
- Elite athletes used impression management strategies to hide their psychological suffering (e.g., *wearing a mask* to hide psychological suffering, adhering to a *vow of silence* regarding such issues in elite sport, and the *need for alibis* to portray suffering or vulnerabilities) as psychiatric disorders are stigmatized within elite sport, making these experiences untellable. This culture makes it difficult to ask for help within elite sport (Study III).
- Poetic representations of one elite athlete's experiences of living with an eating disorder provide an example of the interplay between previously known risk factors such as teammate influence, contagious effects, and pride in the development and maintenance of distorted eating from the perspective of someone who has actually lived through it. The usefulness of poetic representations as a pedagogic resource for increasing mental health literacy should be evaluated further. (Study IV).

# Svensk sammanfattning

Det övergripande syftet med den här avhandlingen är att öka kunskapen om psykiatriska diagnoser hos svenska elitidrottare på landslagsnivå.

Studie I undersökte 1) hur vanligt det var att elitidrottare uppvisar symtom på olika psykiatriska diagnoser, 2) förekomsten av psykisk ohälsa – definierat som psykiskt lidande så allvarligt att det innebar en påtaglig funktionsnedsättning >2 veckor, 3) användbarheten av redan tillgängliga idrottspecifika skalor för att identifiera kliniskt relevanta symtom kopplade till ångest och depression, samt 4) hur vanligt det var att tidigare ha fått en psykiatrisk diagnos. I studie II beskrivs förekomsten av olika psykiatriska diagnoser och samsjuklighet i en klinisk kohort av elitidrottare och elittränare som har sökt psykiatrisk öppenvård. Studie III bygger på intervjuer med elitidrottare som tidigare har fått en psykiatrisk diagnos. Analysen fokuserar på att försöka förstå varför de valt att söka hjälp utanför, i stället för inom sin egen elitidrottskontext. I studie IV berättar en kvinnlig elitidrottare sin livshistoria av att leva med en ätstörning. Hennes erfarenheter sammanfattas i tre dikter som bygger på hennes egna ord från intervjuer.

Nästan en av fem (19%) svenska elitidrottare hade kliniska nivåer av ångest och/eller depression vid en given tidpunkt. En tidigare psykiatrisk diagnos återfanns hos 8.1%. Över hälften (51.7%) hade någon gång i livet drabbats av psykisk ohälsa. Vanligast var att drabbas första gången i åldern 17–21 år. Idrottspecifika skalor kunde över lag fånga upp kliniska symtom men saknade tillräcklig sensitivitet och specificitet för praktisk användning i idrotten. I en klinisk kohort med elitidrottare som hade sökt psykiatrisk öppenvård var ångestrelaterade diagnoser vanligast (69%), följt av depressiva diagnoser (51%) och ätstörningar (26%). Samsjuklighet var vanligt. De kvalitativa studierna visade att bilden av hur en elitidrottare ska vara bidrog till en stigmatisering av psykisk ohälsa. Elitidrottare upplevde därför att de inte kunde prata om sitt psykiska lidande då det sågs som en svaghet inom idrotten och använde olika strategier för att dölja hur de egentligen mådde. Tre dikter som beskriver en elitidrottarens upplevelse av att drabbas av en ätstörning kan bidra med ett viktigt komplement till det medicinska perspektivet och skapa en djupare förståelse för det lidande och de utmaningar denna typ av diagnos medför, men även ge hopp om att det går att bli frisk.



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