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ISOBELLE J. R. BIGGIN BSc Hons

**AN INVESTIGATION OF ELITE ATHLETES' AND COACHES'
PERCEPTIONS OF MENTAL ILL-HEALTH IN ELITE ATHLETES**

Section A: A Review of Research Investigating the Prevalence of Mental
Ill-health in Elite Athletes

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SALOMONS
CANTERBURY CHRIST CHURCH UNIVERSITY

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Overview of the Major Research Project

Section A discusses theoretical models of mental ill-health which suggest that elite athletes may be both more resilient, and more vulnerable, to developing difficulties and reviews the literature around the prevalence of mental disorders amongst this population. It suggests that mental ill-health is as prevalent amongst elite athletes as the general population, except for those competing in sports which emphasise the importance of a lean body, who present with higher levels of eating disorders. A gap in the literature around anxiety disorders amongst this population is highlighted. It recommends further research in this area as well as the role of cultural influences on the development of mental ill-health amongst this population and the understandings of mental ill-health held by elite athletes and coaches.

Section B aims to explore the perceptions of 20 elite athletes and 16 elite coaches of issues surrounding mental ill-health amongst elite athletes. Athletes and coaches completed three online questionnaires as part of two separate, three round Delphi methods. Consensus and divergence of opinion within and between athlete and coach groups are discussed in relation to clinical implications and future research.

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MAJOR RESEARCH PROJECT

ISOBELLE J. R. BIGGIN BSc Hons

Section A:

A Review of Research Investigating the Prevalence of Mental Ill-Health
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Abstract

Theoretical models of mental ill-health suggest that individuals in roles which require extreme dedication and involve high levels of stress, factors often experienced by elite athletes, may be vulnerable to mental disorders. This paper provides a review of the research investigating the prevalence of mental ill-health amongst elite athletes. From a search of electronic databases (PsycINFO; Web of Science; Google Scholar), 20 studies were included. The review reports that the prevalence of mental ill-health amongst elite athletes is comparable to that of the general population, but that elite athletes competing in sports which emphasise a lean body for success present with a higher prevalence of eating disorders. A gap in the research around the prevalence of anxiety disorders amongst elite athletes is noted and a recommendation for further research in this area is made. Additional areas for future investigation include the role of cultural influences on the development of mental ill-health amongst elite athletes and the experiences and understandings of mental ill-health held by elite athletes and coaches.

Key words: elite, athlete, mental ill-health, mental disorder, prevalence.

Introduction

The elite athlete's role is unique in that it demands a high level of dedication with the potential for great gains or major losses. Theoretical models of mental ill-health suggest that elite athletes may be both more resilient, and more vulnerable, to developing difficulties. These models will be described prior to a review of the prevalence of mental ill-health amongst elite athletes. Findings will then be discussed in terms of these theoretical models.

Diathesis-Stress Models and Role Identity Models of Psychopathology

Diathesis-stress models of psychopathology suggest that it is the interaction between predisposing psychological factors and the level of stress experienced that determines the development of mental health issues (Ingram & Luxton, 2005). Likewise Zubin and Spring's (1977) vulnerability model suggests that when life stressors go beyond an individual's vulnerability threshold they are more likely to present with mental health issues.

Research also suggests that role identities may act as protective factors against psychological distress by providing a sense of meaning and purpose, influencing self-esteem and maintaining psychological well-being (Thoits, 1991). Thoits (1991) argues that role identities are self-conceptions related to enduring and reciprocal relationships with other people, as opposed to transitory or occasional relationships. Individuals tend to associate with others who they identify with, derive self-esteem from group membership and adopt behaviours that are consistent with the stereotypes associated with the group identity (Chen & Xin Li, 2009). An individual can consider themselves a member of a number of different groups that they are either born into or through self-chosen affiliation (Ellemers, 2012). Depending on the situation, the level of affiliation with, commitment to and invest in each of these groups may

vary (Ellemers, 2012). The fewer identities held by an individual the greater the investment in and salience of these identities is likely to be (Hoelter, 1983). However, failing to meet identity performance expectations may decrease a person's self-esteem and negatively impact upon their well-being (Thoits, 1983). The impact of identity failure or loss on psychological well-being for those with few identities is likely to be greater than for those with numerous social identities in which to reinvest (Thoits, 1983).

Risk Factors for the Athlete Population

Stress.

Elite athletes are regularly subjected to high levels of stress, and due to their commitment to their sport, have limited opportunity to develop multiple identities. For these reasons, despite the fact they are likely to possess protective factors such as good health, employment, support networks and the benefits of exercise (Scully, Kremer, Meade, Graham, & Dudgeon, 1998), it has been suggested that they are at high risk of developing psychological difficulties (Hughes & Leavey, 2012). For example, studies have shown that elite athletes experience competitive stressors related to preparation, injury, pressure, opponents, events and superstitions, as well as organisational stressors related to selection, finances, training, accommodation, travel, competition, safety, nutrition, expectations, coaches, team atmosphere, support network, roles and communication (Hanton, Fletcher, & Coughlan, 2005). As Wiese-Bjornstal (2010) pointed out, the hopes of an entire nation may be dashed by an athlete's poor performance or injury, adding to athletes' stress. The prevalence of mental ill-health is therefore expected to be at least equal to that of the general population (Kamm, 2008). The interaction between athletic performance and eating disorders exemplifies the diathesis stress model well and the majority of research in this area has focussed on this issue.

The sociocultural model of eating pathology suggests that social pressure to be thin places individuals at risk of eating disorders (Stice, 2002). Given the focus on body perfectionism, it is unsurprising that the athletic culture has received attention from researchers (Kerr, Berman, & De Souza, 2006). As no controlled longitudinal studies have been conducted, it is difficult to determine the directional effect of factors related to eating disorders in athletes. Sundgot-Borgen (1994a) suggested that situational factors including; dieting at an early age, coaches recommending weight loss, unsupervised dieting and weight cycling increase the risk of athletes developing eating disorders. Thompson and Sherman (1999) suggested that traits considered desirable in athletes by coaches including excessive exercise, perfectionism and compliance are also commonly associated with eating disorders.

Many athletes and coaches believe that reduced weight positively affects an athlete's performance (De Bruin, Oudejans, & Bakker, 2007). However, continuously restricting energy intake can be detrimental to physical health. The term 'Female Athlete Triad' (FAT) refers to disordered eating and associated health implications including amenorrhea and osteoporosis amongst female athletes (Lo, Hebert, & McClean, 2003). FAT is thought to affect between 1-3% of female athletes (Marquez & Molinero, 2013).

Despite much research into eating pathology, there are surprisingly few papers pertaining to other negative reactions to stress, such as anxiety disorders, amongst athletes (Reardon & Factor, 2010), and none meeting the inclusion criteria for this review. This is despite considerable research on state anxiety experienced by athletes prior to competition (Jones, 1995).

Identity.

The commitment required to participate in elite sports is extremely high and a strong athletic identity may positively effect performance (Danish, 1983). However, athletes with a strong athletic identity may become vulnerable to emotional difficulties when career transitions threaten role expectations, including being cut from a team, injury or retirement (Pearson & Petitpas, 1990). These situations may disrupt self-identity if the athlete lacks other sources of self-worth and self-identification (Brewer, 1993). Research suggests that injured athletes show higher levels of emotional disturbance than non-injured athletes with 9.6% meeting the diagnostic criteria for major depressive disorder (MDD) (Appaneal, Levine, Perna, & Roh, 2009).

The process by which an athletic injury results in emotional disturbance may be multifactorial. As well as potential loss of identity and self-worth, injured athletes may be unable to use exercise to cope with stress or for mood management and suffer disintegration from their social network through exclusion from training. This may reduce the athlete's social support, which is considered a significant risk factor for mental ill-health (Hefner & Eisenberg, 2009). Wippert & Wippert (2008) reported clinical symptoms of Post-Traumatic Stress Disorder (PTSD) amongst elite athletes who received no support during an involuntary dismissal from their team.

Factors Influencing the Recognition of Mental Ill-Health in Elite Athletes

Despite competing evidence about the prevalence of mental ill-health amongst athletes being equal to or higher than the general population (Kamm, 2008; Macleod, 1998), this remains a largely under researched area. Some researchers have suggested this is in part due to sport's culture of masculine ideals which value strength and 'toughness' in athletes (Wiese-Bjornstal, 2010) who are socialised to minimise signs of perceived weakness (Reardon & Factor, 2010). Subsequently, athletes may be less likely to seek support for mental ill-health due to associated stigma and potential risks such as exclusion, loss of professional identity and loss of livelihood (Glick, Stillman, Reardon, & Ritvo, 2012; Gulliver, Griffiths, & Christensen, 2012; Gulliver, Griffiths, Mackinnon, et al., 2012; Linder, Pillow, & Reno, 1989).

The athletic culture may also be responsible for the under recognition of mental health issues amongst this population. Tan, Bloodworth, McNamee and Hewitt (2012) suggest that, whereas the pursuit of thinness would be seen as unhealthy within a healthcare setting, within an elite sports environment such behaviours may be normalised or viewed positively due to the advantages they hold towards athletic achievement. Similarly physicians may diagnose depressed athletes as 'over-trained' or 'burnt-out' due to similar presentations of; fatigue, insomnia, changes in appetite, weight loss, diminished concentration and lack of motivation (Reardon & Factor, 2010). Physicians may view symptoms from a narrow physiological perspective and be influenced by the stigmatisation of mental illness or an assumption that athletes are less susceptible to mental ill-health (Schwenk, 2000). It has also been suggested that sports governing bodies and officials are complicit in downplaying psychiatric symptomology in this population (Reardon & Factor, 2010).

Rational for Review

Theoretical models suggest that athletes may possess protective factors against the development of mental ill-health, yet they are situated in a position which may make them more vulnerable to these issues. Investigations to date have mostly involved high school or college athletes largely due to difficulties in recruiting elite athletes (Schaal et al., 2011). The generalizability of these studies' to an elite athlete population is limited due to the unique qualities and pressures associated with elite athletes (Schaal et al., 2011). This paper therefore aims to address this gap in the literature by reviewing the studies into the prevalence of mental ill-health amongst the elite athlete population in order to draw conclusions and make suggestions for future research.

Terminology**Elite athlete.**

As of yet, no definitive definition of an 'elite athlete' exists. Mallett and Hanrahan (2004) included track and field athletes who finished in the top ten at a major championship in their study of the motivational processes of elite athletes. Although clear, this criterion cannot be extended to all sports. Schaal et al. (2011) and Nixdorf, Frank, Hautzinger and Beckmann (2013) defined elite athletes as those competing at a national or international level. Within the present paper, studies were included where the criteria for elite athletes indicated national and/or international level competition. Papers examining the prevalence of mental ill-health solely amongst Para-athletes have been excluded from this review due to the added complexity of mental health difficulties related to disability (Turner, Lloyd, & Taylor, 2006).

Mental ill-health.

Our understanding of mental ill-health has been significantly influenced by the Diagnostic Statistical Manual (DSM) and the International Classification of Diseases (ICD) classification systems. More recent versions of these systems have converged on many features, allowing for an internationally shared framework of concepts, rule-based classifications of mental disorders and explicit criteria for diagnosis (Jablensky, 1999). These are internationally the most widely utilised classification systems in research and clinical practise for the diagnosis of mental ill-health. Subsequently studies investigating the prevalence of mental disorders referred to in either the IDC-10, DSM-IV or DSM-V have been included in this review.

Literature Review: Prevalence of Mental Ill-Health in the Elite Athlete Population

A thorough literature search was conducted to identify research on the prevalence of mental ill-health amongst elite athletes.

Review Methodology and Structure

The electronic search engines PsychINFO and Web of Science Core Collection were searched using advanced search options. Google Scholar was searched for additional papers. Truncation, phrase searching and exploded subject headings were used to maximise the search's scope. Search terms were identified from an initial, broad review of the literature in the area and can be seen in Table 1. Key terms were combined with Boolean operators OR and AND to allow for the broadest search results which addressed the aims of the review. A time limit on publication between 1994 and 2015 was used to discount material which referenced outdated psychiatric categories. Only articles published in English were included.

Table 1. Key terms, phrase searches and truncation used in literature search

Key terms related to prevalence	Key terms related to mental ill-health	Key terms related to athletes
Prevalence	“Mental health”	Athlete*
Incidence	“Mental illness”	Competitor*
Occurrence	“Psychological distress”	Sport*
Frequency	“Psychological problem*”	
Epidemiology	“Emotional distress”	
	“Mental disorder*”	
	Ritual	
	“Obsessive compulsive disorder”	
	OCD	
	Depress*	
	“Major depressive disorder”	
	Stress*	
	“Eating disorder*”	
	“Pathogenic weight control”	
	“Anorexia nervosa”	
	“Bulimia nervosa”	
	“Female athlete triad”	
	“Eating psychopathology”	

Inclusion criteria.

- Must refer to psychiatric classifications as defined in the DSM-IV, DSM-V or ICD-10
- Must define elite athletes as those competing at a national level or above
- Must look at prevalence of mental ill-health

Exclusion criteria.

- Studies not relating to prevalence
- Studies investigating sub-clinical pathologies
- Studies solely investigating Para-athletes

Search strategy.

The titles and abstracts of studies identified through searches were screened, duplicates and articles not meeting the inclusion criteria were omitted at this stage. Full texts of selected articles were retrieved and analysed further. These papers’ references were hand searched for

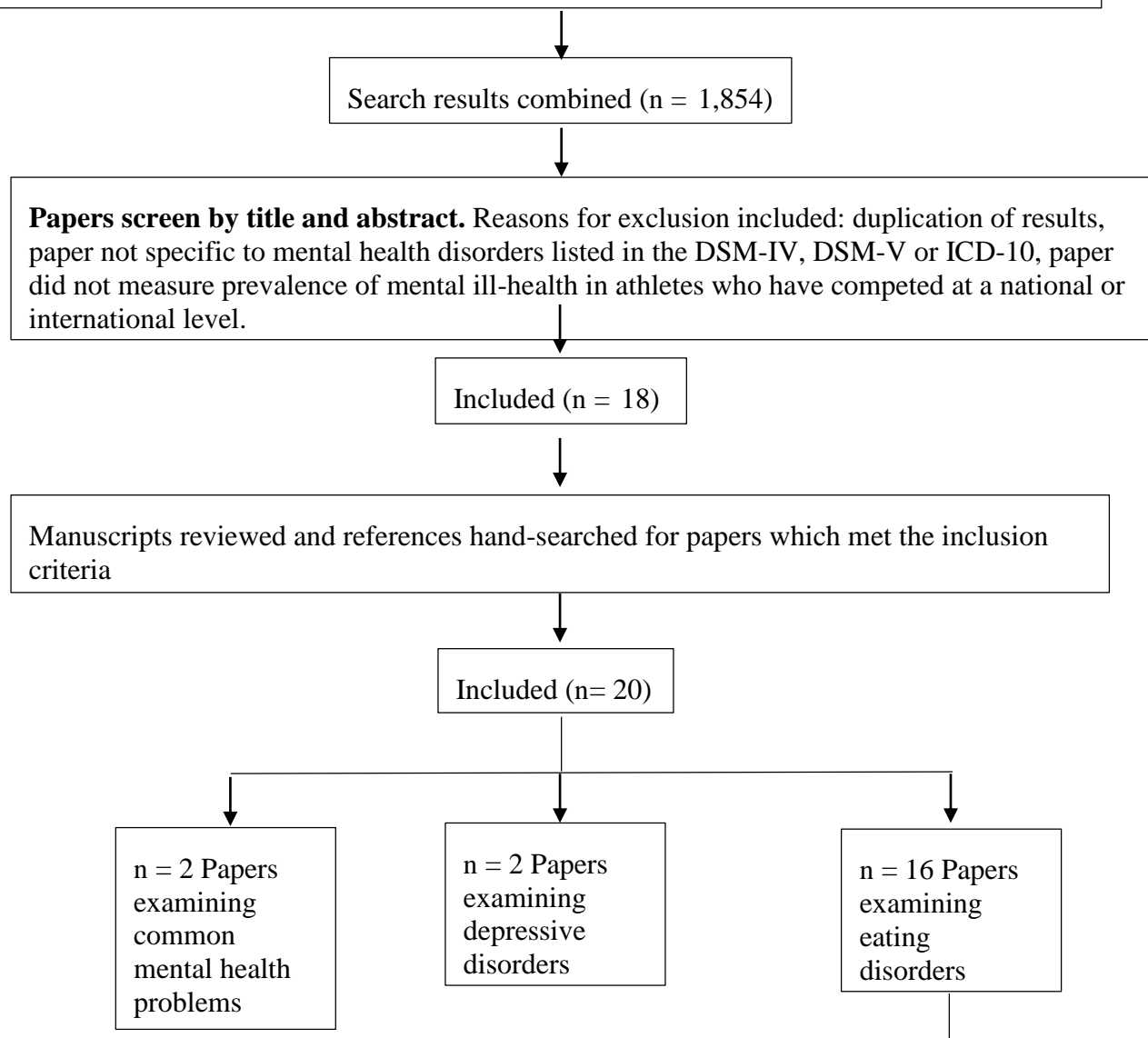
relevant material not found during the electronic search. See Figure 1 for details of this search strategy.

Databases: Psycinfo, Web of Science Core Collection and Google Scholar.

Search Terms: prevalence OR incidence OR occurrence OR frequency OR epidemiology AND “mental health” OR “mental illness” OR “psychological distress” OR “psychological problem*” OR “emotional distress” OR “mental disorder*” OR ritual OR “obsessive compulsive disorder” OR OCD OR depress* OR “major depressive disorder” OR stress* OR “eating disorder*” OR “pathogenic weight control” OR “anorexia nervosa” OR “bulimia nervosa” OR “female athlete triad” OR “eating psychopathology” AND athlete* OR competitor* OR sport*

Related Subject Headings: “Epidemiology”, “Mental Health”, “Distress”, “Anxiety”, “Depression (emotion)”, “Emotional Trauma”, “Obsessive Compulsive Disorder”, “Mental Disorders”, “Eating Disorders”, “Anorexia Nervosa”, “Bulimia”, “Athletes”, “College Athletes”, “Sports”

Limits: Published between 1994 – 2015, English language articles.



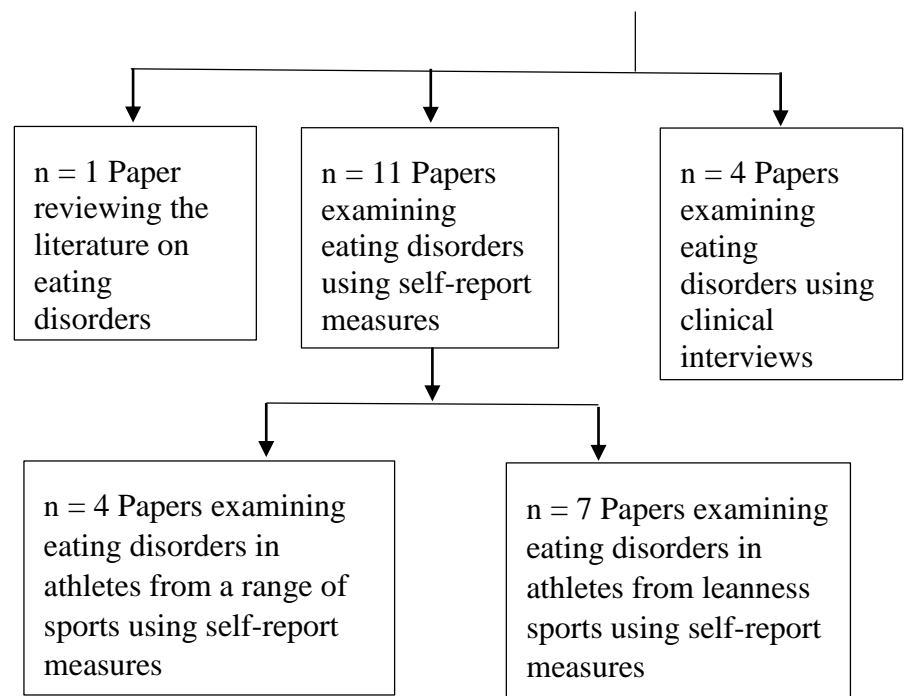


Figure 1. Flow chart of literature search strategy

Results

A total of 20 references were selected for inclusion in this review. All included papers used questionnaires or surveys in their approaches, apart from one review paper. Data extraction forms based on the Greenhalgh's (2010) recommendations for reviewing research using questionnaire and survey data (Appendix A) and review papers (Appendix B) were developed to strategically review the quality of papers. The papers are organised by the diagnostic categories investigated by the authors. Firstly, two papers investigating the prevalence of all common mental health disorders amongst elite athletes are reviewed. Secondly, studies examining the prevalence of specific mental health disorders within this population are presented including two papers which discuss the prevalence of depressive disorders and 16 papers which investigate the prevalence of eating disorders. The eating disorder literature has been further organised into papers which used self-report tools to measure prevalence, of

which seven specifically investigated leanness focussed sports, and those which used clinical interviews. Details of studies using self-report measures can be found in Table 2, whilst details of studies using clinical interviews are presented in Table 3. The theoretical implications in relation to how models of mental health apply to the elite athlete population and areas for future research are identified.

Table 2: Details of studies including standardised self-report measures

Author(s)/ Year	Title	Participant nationality	Sport categories used (and disciplines included)	Participant numbers	Participant age in years	Mental health self- report measure used
Dwyer et al. (2012)	Eating attitudes and food intakes of elite adolescent female figure skaters: A cross sectional study	USA (United States of America)	Figure skating	N= 36 Females	Range: 13- 22 Mean: 16	Eating Attitudes Test (EAT-40)
Gomes, Martins, & Silva. (2011)	Eating disordered behaviours in Portuguese athletes: The influences of personal, sport, and psychological variables	Portuguese	Individual sports (athletics, karate, swimming, taekwondo) Collective sports (basketball, handball, volleyball)	n= 150 Male athletes n= 140 Female athletes	Range: 14- 30 Mean: 17.8	Eating Disorders Examination Questionnaire (EDE- Q)
Gulliver, Griffiths, Mackinnon, Batterham, & Stanimirovic (2014)	The mental health of Australian elite athletes	Australian	Cricket, Football (Soccer), Hockey, Netball, Rowing, Sailing, Water polo, Softball, Other	n= 118 Female athletes n= 106 Male athletes	Female mean: 23.86 Male mean: 26.08	Kessler- 10 Scale (K- 10) Centre of Epidemiological Studies Depression Scale (CES-D)

<p>Generalised Anxiety Disorder 7 Scale (GAD-7)</p> <p>Social Phobia Inventory (SPIN)</p> <p>Panic Disorder Severity Scale (PDSS-SR)</p> <p>SCOFF Questionnaire for eating disorder symptoms</p> <p>Prior Counselling Measure of General Help-Seeking Questionnaire (GHSQ)</p>						
Hausenblas & McNally (2004)	Eating disorder prevalence and symptoms for track and field athletes	USA	<p>Middle/ long distance track events (800m, 1500m, mile, 3000m, steeplechase, 5000m, 10000m)</p> <p>Sprint track events (100m, 200m, 400m, hurdles)</p> <p>Field events (shot put, discus, hammer, pole vault,</p>	<p>n= 217 Athletes</p> <p>n= 195 Non-athlete controls</p>	<p>Athlete mean: 19.75</p> <p>Non-athlete mean: 20.81</p>	<p>Eating Disorders Inventory 2nd Edition (EDI-2)</p> <p>Questionnaire for Eating Disorder Diagnosis (Q-EDD)</p>

long jump, triple jump, javlin)						
Hulley, Currie, Njenga, & Hill (2007)	Eating disorders in elite female distance runners: Effects of nationality and running environment	UK (United Kingdom) Kenyan	Running (800m to marathon distance track, road, cross-country)	n= 355 Female athletes n= 198 Female non-athletes	Range: 15-30 Mean: 20.8 (Non-athletes matched in age)	EDE-Q
Hulley & Hill (2001)	Eating disorders and health in elite women distance runners	UK	Distance runners (track, road, cross-country and fell/mountain)	N= 181 Females athletes	Mean: 28.5	EDE-Q
Kong & Harris (2015)	The sporting body: Body image and eating disorder symptomology among female athletes from leanness focused and non-leanness focussed sports	Australian	Leanness focussed sports (gymnastics, cheerleading, cycling, endurance sports, long distance running, light weight boxing, light weight rowing) Non-leanness focussed sports (football, netball, soccer, hockey, cricket, baseball, racquet sports, water polo, heavy weight rowing)	n= 128 elite Female athletes n= 112 Recreational level female athletes n= 80 Non-competitive level female athletes	Range: 17–30 Mean: 21.7	EAT-26

Krentz & Warschburger (2011)	Sports- related correlates of disordered eating in aesthetic sports	German	Aesthetic sports (ice figure skating, gymnastics, ballet, roller-skate figure skating, diving, rhythmic gymnastics)	n= 35 Male athletes n= 61 Female athletes n= 35 Male non-athletes n= 61 Female non-athletes	Athlete range: 11-18 Athlete mean: 14.0 Non-athlete range: 11-16 Non-athlete mean: 13.7	EAT-26
Michou & Costarelli (2011)	Disordered eating attitudes in relation to anxiety levels, self-esteem and body image in female basketball players	Greek	Basketball	n= 74 Female athletes n= 80 Female non-athletes	Athlete mean: 24.92 Non-athlete mean: 25.21	EAT-26
Nixdorf et al. (2013)	Prevalence of depressive symptoms and correlating variables among	German	Individual sports (Badminton, ice running, golf, athletics, modern pentathlon, cycling,	n= 44 Female professional athletes	Range: 15-53 Mean: 23.41	CES-D

	German elite athletes		wrestling, swimming, snowboarding, triathlon)	n= 55 Male professional athletes		
			Team sports (beach volleyball, ice hockey, soccer, handball, hockey, rugby, volleyball, canoeing)	n= 12 Female junior professional athletes		
				n= 23 Male junior professional athletes		
				n= 2 Female amateur athletes		
				n= 26 Male amateur athletes		
Toro et al. (2005)	Eating disorders in Spanish female athletes	Spanish	Water sports (rowing, sailing, canoeing)	n= 184 Male athletes	Mean: 15.3	EAT
			Swimming (swimming, diving, synchronized swimming)	n= 283 Female athletes		Spanish version of the Eating Disorders Evaluation Questionnaire (CETCA)
			Team sports (hockey, volleyball, basketball)			

			Individual sports (tennis, ping-pong, fencing, judo)			
			Long distance running			
			Athletics (jumping, sprinting)			
			Rhythmic sports (gymnastics, figure skating)			
Voelker, Gould, & Reel (2014)	Prevalence and correlates of disordered eating in female figure skaters	USA	Figure skating (singles, multiple, synchronized, ice dancing, pairs)	n= 83 Elite female athletes n= 185 Sub-elite female athletes	Range: 12-25 Mean: 15.63	EAT-26
Ziegler et al. (1998)	Eating attitudes and energy intakes of female skaters	USA	Ice skating	N= 21 Female athletes	Range 11-16 Mean 13.7	EAT

Table 3: Details of studies including clinical interviews

Author(s)/ Year	Title	Participant nationality	Sport categories used (and disciplines included)	Participant numbers	Participant age in years	Screening measures/ clinical interview used
Byrne & Mclean (2002)	Elite athletes: Effects of the pressure to be thin	Australian	Thin-build sports (gymnastics, ballet, light- weight rowing, diving, swimming, long distance running) Normal-build sports (tennis, volleyball, hockey, basketball)	n= 108 Male athletes n= 155 Female athletes n= 263 Non- athletes (matched in gender, age, ethnic group and level of education)	Range: 15- 36	Composite International Diagnostic Interview (CIDI)
Hammond, Gialloreto, Kubas, & Davis (2013)	The prevalence of failure- based depression among elite athletes	Canadian	Swimming	n= 22 Female athletes n= 28 Male athletes	Range: 18- 26 Mean: 20.5	Beck Depression Inventory 2 nd Edition (BDI- II) Semi- structured

						interview based on the DSM-IV-TR criteria for Major Depressive Disorder (MDD)
Schaal et al. (2011)	Psychological balance in high level athletes: Gender based differences and sport-specific patterns	French	Aesthetic sports Contact/ combat sports High risk sports Aiming and fine motor skill sports Racing sports Racquet sports Team ball sports	n= 728 Female athletes n= 1339 Male athletes	Range: 12-35 Mean: 18.5	Clinical interviews based on Diagnostic and Statistical Manual 4 th Edition (DSM-IV) or International Classification of Diseases -10 (CIM-10) criteria for diagnosis
Sundgot-Borgen (1994b)	Risk and trigger factors for the development of eating disorders in female elite athletes	Norwegian	Technical sports (alpine skiing, bowling, golf, high jump, horseback riding, long jump, rifle shooting, sailing, sky diving) Endurance sports (biathlon, cross country-skiing, cycling,	N= 522 Female athletes	Range: 12-35	Eating Disorder Inventory (EDI) Interview protocol developed as

			dog racing, middle-distance and long distance running, orienteering, race walking, rowing, speed skating, swimming)				part of the Diagnostic Survey for Eating Disorders
			Aesthetic sports (diving, figure skating, gymnastics, rhythmic gymnastics, sports dance)				
			Weight dependent sports (judo, karate, wrestling)				
			Ball game sports (badminton, bandy, basketball, soccer, table tennis, team handball, tennis, volleyball, underwater rugby)				
			Power sports (Discuss, Javelin, Power lifting, Shot put, Sprint)				
Sundgot-Borgen & Torstveit (2004)	Prevalence of eating disorders in elite athletes is higher than the general population	Norwegian	Technical sports	n= 687 Male athletes	Range: 15-39	EDI	
			Endurance sports			Eating Disorder Examination (EDE)	
			Aesthetic sports	n= 572 Female athletes	(Controls matched to athletes in age)		
			Weight class sports				

			Ball game sports	n= 629 Male controls		
			Power sports			
			Antigravitation sports	n= 574 Female controls		
			Motor sports			
Torstveit, Rosenvinge, & Sundgot-Borgen (2008)	Prevalence of eating disorders and predictive power of risk models in female elite athletes	Norwegian	Technical sports	n= 669 Female athletes	Range: 13- 39 years	Body dissatisfaction and Drive for thinness subscales of the EDI EDE
			Endurance sports			
			Aesthetic sports	n= 607 Female controls		
			Weight class sports			
			Ball game sports			
			Power sports			
			Antigravitation sports			

Prevalence of Common Mental Health Disorders in the Elite Athlete Population

Two studies included in this review investigated the prevalence of all common mental health disorders within the elite athlete population. Gulliver et al. (2014) had 224 Australian elite athletes, aged 18 years and older, complete a battery of online standardised self-report measures. Assessments included the Kessler 10 scale (K-10), the Centre for Epidemiological Studies Depression Scale (CES-D), the Generalised Anxiety Disorder 7 Scale (GAD-7), the Social Phobia Inventory (SPIN), the Panic Disorder Severity Scale (PDSS-SR), the SCOFF questionnaire of eating disorder symptoms and the Prior Counselling Measure of General Help-Seeking Questionnaire (GHSQ) (Gulliver et al., 2014). In a French study, Schaal et al. (2011) retrospectively analysed the yearly mandatory psychological evaluations of 2067 elite athletes, carried out by psychologists and physicians using the DSM-IV or CIM-10 criteria for diagnosis.

Gulliver et al. (2014) found that 46.4% of their sample met the criteria for at least one mental disorder. The authors argue that this is broadly comparable to the Australian general population within a comparable age range (Australian Bureau of Statistics, 2007). They reported 23.6% of male and 30.5% of female elite athletes had a possible depressive disorder, with injured athletes displaying significantly higher levels of depression and Generalised Anxiety Disorder (GAD) than non-injured athletes (Gulliver et al., 2014). Prevalence of eating disorders were 12.3% for males and 32.2% for females, 7.1% of the sample met the criteria for GAD and 4.5% for panic disorder (Gulliver et al., 2014). These prevalence rates appear to be higher than amongst the Australian general population according to mainstream literature, with depressive disorder, GAD and panic disorder reported at 6.3%, 2.6% and 1.1% respectively (Andrews, Henderson, & Hall, 2008). The prevalence of eating disorders amongst this sample is also high compared to rates of anorexia nervosa (AN) (0.9%) and

bulimia nervosa (BN) (1.1%) amongst the general population reported in mainstream literature (Hoek & van Hoeken, 2003).

Schaal et al. (2011) reported that 16.9% of their athlete sample experienced recent or ongoing psychopathology. The mainstream literature suggests that this is comparable to the prevalence found amongst the general population across six European countries (Alonso et al., 2004). GAD was the most prevalent disorder in this sample with 8.6% receiving a diagnosis (Schaal et al., 2011), compared to 1% reported amongst the general population (Alonso et al., 2004). The prevalence of depression (3.6%) reported by Schaal, et al. (2011) was comparable to that of the general population (3.9%) (Alonso et al., 2004) although the prevalence of eating disorders (4.9%) was significantly higher than amongst the general population (0.26%) (Preti et al., 2009). Aesthetic sport athletes had the highest prevalence of depression (24.2%) and significantly higher rates of GAD compared to all other sport types (38.9% vs 10.3% for women and 16.7% vs 6.8% for men) (Schaal et al., 2011).

Gender differences reported by both investigations suggest higher frequencies of common mental health conditions amongst female athletes than male athletes, reflecting findings amongst the general population. Gender differences in mental health have been attributed to women exhibiting higher rates of affective disorders such as anxiety and depression, whilst men exhibit higher rates of behavioural disorders such as substance abuse and antisocial behaviour, which are not consistently measured within mental health research (Hill & Needham, 2013). Lower frequencies of eating disorders amongst male athletes than female athletes reported by Gulliver et al. (2014), may be attributable to sex differences in perceived pressure to be thin. Bryne and McLean (20014) argue that female elite athletes are subject to general societal pressure to be thin, as well as sport-specific pressure to be lean in order to

increase performance. Whilst male athletes may be subject to pressure from within their sport to conform to an ideal body shape, they may be less likely to face sociocultural pressures to be thin (Bryne & McLean, 20014).

Schaal et al. (2011) reported that a younger age was associated with an increased likelihood of mental ill-health, with 15.1% of athletes aged 17 years or under being diagnosed with at least one psychopathology. Mainstream population studies also report a relatively high prevalence of mental disorders in individuals under the age of 18 (Ford, Goodman, & Meltzer, 2003). It is possible therefore that the prevalence reported by Gulliver et al. (2014) may have been higher had they included participants under the age of 18 in their investigation.

Response bias must be considered as athletes' decision to participate in this investigation may be influenced by participants' experiences of mental ill-health, potentially inflating the reported findings (Gulliver et al., 2014). It could be argued that methodology used by Schaal et al. (2011) had increased validity as diagnoses of mental health disorders were made by qualified professionals using widely accepted diagnostic criteria. However, the authors found that the psychologists, who completed 61% of the diagnostic interviews, diagnosed mental disorders at a significantly higher prevalence than the physicians involved in the investigation, which may have impacted upon the findings of this investigation (Schaal et al., 2011). Also of note is the fact that yearly psychological assessments of high level athletes is mandatory in France, suggesting that psychological difficulties amongst this population is a known issue, despite limited published evidence to support this.

Summary.

Despite their limitations, these studies offer useful insights into the prevalence of common mental health disorders amongst elite athletes. Both suggest that the prevalence of mental ill-health amongst elite athletes is comparable to, if not higher than that found in the general population. The findings suggest that sport related factors including injury and type of sport may be related to the prevalence of mental disorders experienced by elite athletes.

Depressive Disorder Prevalence in the Elite Athlete Population

Two papers included in this review investigated the prevalence of depressive disorders amongst elite athletes. Nixdorf et al. (2013) investigated a sample of elite German athletes from 18 sport disciplines, whilst Hammond et al. (2013) used a sample of elite Canadian swimmers. Nixdorf et al. (2013) compared the responses of 99 professional athletes, with 35 junior professional athletes and 28 amateur athletes' to an online version of the CES-D. They reported 15% of professional athletes, 20% of junior professionals and 29% of the amateur athletes were classified as having MDD (Nixdorf et al., 2013). The prevalence of depression amongst the German general population ranges from 6-17% (Jacobi et al., 2004 as cited in Nixdorf et al., 2013), therefore the authors challenge the assumption that elite athletes are less affected by depressive symptoms than the general population (Nixdorf et al., 2013).

Hammond et al. (2013) found a considerably higher prevalence rate of MDD amongst their sample of elite Canadian swimmers compared to that reported amongst the general population. Their sample of 28 male and 22 female swimmers completed the Beck Depression Inventory 2 (BDI-II) and underwent a semi-structured interview based on the DSM-IV-TR criteria (Hammond et al., 2013). The authors found that 68% of athletes met the criteria for MDD in the previous 36 months (Hammond et al., 2013). Interestingly 66% of athletes ranked in the top 25% of the sample, based on personal best performance times, met

the diagnostic criteria for MDD and had a significantly higher prevalence rate than the rest of this sample ($p = .016$) (Hammond et al., 2013).

Summary.

Both of these investigations used well established methodologies for determining the presence of depressive symptoms, with good validity and reliability (Radloff, 1977; Dozois, Dobson, & Ahnberg, 1998). Although their findings vary, both suggest that depressive disorders are at least as prevalent amongst the elite athlete population as the general population. Hammond et al. (2013) propose that elite athletes may have a significantly higher prevalence than the general population, with those ranking highest in the elite athlete population having the highest prevalence. This finding has implications for our current understanding of the necessary psychological wellbeing of athletes to achieve elite levels of performance. It should be noted, however, that both samples were relatively small, with all athletes in the Hammond et al. (2013) investigation being drawn from 2 Canadian universities and aged between 18.2- 26.7 years. It is therefore important that further research into the prevalence of depressive disorders amongst elite athletes be conducted using larger samples across the age range and sports disciplines, to develop our understanding.

Eating Disorder Prevalence in the Elite Athlete Population

Sixteen papers investigating the prevalence of eating disorders amongst the elite athlete population are reviewed. A large proportion of these studies have been conducted with Norwegian elite athletes by researcher Sundgot-Borgen and colleagues. In 2010 Sundgot-Borgen and Torstveit offered a review of the trend in the prevalence of eating disorders amongst the Norwegian elite female athlete population from the early 1990s to 2002 based on three studies published by Sundgot-Borgen and her team. The authors attempted to

standardise the percentage of athletes and controls diagnosed with eating disorders across investigations. Their findings suggest a significant increase in the prevalence of eating disorders during this period ($p < .0001$), with prevalence amongst elite athletes increasing from 20% to 28% ($p = .0007$) and in the non-athlete controls from 5% to 21% ($p < .0001$) between 1997-2002. Sundgot-Borgen and Torstveit (2010) believe this finding could be due to an increased focus on body composition and health generally amongst the Norwegian population and athletes specifically. However, they also note that this outcome could be attributable to several limitations in their attempt to compare prevalence rates across three studies, including; variation in the screening for participants at-risk of eating disorders, the inclusion of the Eating Disorder Not Otherwise Specified category in the most recent study, and an increase in the mean age of subjects (Sundgot-Borgen & Torstveit, 2010).

There is an absence of longitudinal studies in this area and therefore this review offers useful insights into prevalence of eating disorders amongst elite athletes over time. Unfortunately, the generalizability of these findings is somewhat limited by the fact that all participants were Norwegian and, as the control groups were matched to athlete participants in age and their home-community, they are not truly representative of the general population (Sundgot-Borgen & Torstveit, 2010).

Studies investigating the prevalence of eating pathology amongst elite athletes using self-report measures.

The elite athlete population is relatively small, spread across large geographical areas and individuals have high demands on their time and resources. As a pragmatic response 11 investigations included in this review have used standardised self-report measures over in-

depth clinical interviews to determine the prevalence of eating disorders amongst elite athletes (see Table 2).

Studies including elite athletes from across all sports.

The Eating Disorder Inventory-2 (EDI-2) used by Hausenblas and McNally (2004) in their study of eating disorder prevalence in elite track and field athletes compared to non-elite athletes and controls, has good psychometric properties and measures a range of problematic eating-related behaviours and attitudes (Anderson, De Young, & Walker, 2009). The authors also used the Questionnaire for Eating Disorder Diagnosis (QEDD) which generates categorical labels for subjects meeting the DSM-IV criteria for eating disorders. Mintz, O'Halloran, Mulholland and Schneider (1997) report the QEDD has good psychometric properties and that scores significantly correspond with other well established eating disorder scales such as the Eating Attitudes Test (EAT).

The Greek version of the EAT-26 was used by Michou and Costarelli (2011) to compare disordered eating attitudes amongst elite female Greek basketball players with a random sample of controls. The EAT-26, a refinement of the original EAT-40, is a self-report measure of symptoms in AN (Garner & Garfinkel, 1979) and BN (Gross, Rosen, Leitenberg, & Willmuth, 1986). It is highly correlated with the original measure and is considered a reliable and valid measurement of the symptoms of AN (Garner, Olmsted, Bohr, & Garfinkel, 1982). Toro et al. (2005) also used the EAT to investigate eating disorders in Spanish female elite athletes, as well as the Spanish version of Eating Disorders Evaluation Questionnaire (CETCA). The CETCA contains 9 questions based on the DSM-IV diagnostic criteria for AN and BN. No reports of psychometric properties of the CETCA were found.

Gomes et al. (2011) used the Eating Disorder Examination Questionnaire (EDE-Q) to establish the prevalence of eating disorders in their sample of Portuguese athletes, comparing types of sport (individual or team) and elite vs non-elite level athletes. The EDE-Q is based on the Eating Disorder Examination (EDE), a well-established clinical interview, however the EDE-Q's validity with regard to recording complex eating disordered behaviour has been questioned (Anderson et al., 2009).

Michou & Costarelli's (2011) reported that 11% of athletes and 15% of the non-athletes demonstrated disordered eating attitudes associated with higher risk of developing an eating disorder, with no significant difference between these two groups. Gomes et al. (2011) also found no main effect of the type of sport or level of athlete on eating disordered behaviour, and interestingly found no athletes presenting with clinical eating disorders on the four subscales of the EDE-Q. If you consult the mainstream literature, de Azevedo and Ferreira (1992) reported that 0.16% of Portuguese students met the criteria for an eating disorder, which would suggest no significant difference between these athletes and the general population. Hausenblas and McNally (2004) also found no significant difference between the prevalence of eating disorders in elite athletes (8.33%) when compared with non-athletes (8.43%). Likewise Toro et al. (2005) found that the percentage of elite female athletes' who scored above the clinical cut-off for an eating disorder on the EAT (11.4%) was not significantly different from that of the general female population of a similar age (11.1%). They did, however, find significant differences in the prevalence of AN (2.5%) and of BN (20.14%) in athletes compared to a prevalence of AN (0.3-0.4%) and of BN (0.4%-0.8%) in the general population when using the CETCA (Toro et al., 2005). As mentioned above however, this measure is not clinically validated.

Michou & Costarelli (2011) suggest that they did not discover a significant difference between the disordered eating attitudes of elite basketball players and control group due to the lack of emphasis on body shape in basketball. Both the Gomes et al. (2011) and Hausenblas and McNally (2004) papers included athletes competing in a range of different sports in their samples. Hausenblas and McNally (2004) divided their athletes into those competing in middle/long distance, sprint distance and field events due to their differing emphasis on the ideal body shape. Unfortunately there were too few field athletes to include in the sport-group analysis and no significant difference was found between middle/long distance and sprint athletes, both of which emphasise a lean body ideal. Gomes et al. (2011) grouped their elite athletes into “individual” and “collective” sports, arguing that individual sports are more dependent on a restricted body weight than collective sports. Although no significant difference was found between the two groups in terms of eating disorder prevalence, it could be argued the groups encompass a spectrum of events which may vary greatly in factors such as their body ideals and exposure of body, which may affect the prevalence of eating pathology and the findings of this investigation.

Studies including elite athletes from sports which emphasise a lean body shape for success.

Seven papers utilised self-report measures to examine the prevalence of eating disorders amongst athletes competing in sports which emphasise a lean body, either for aesthetic or performance enhancing reasons.

Collective aesthetic sports.

Recently, Kong and Harris (2015) investigated the prevalence of eating disorders amongst elite athletes competing in sports demanding leaner figures and/or lower weights (gymnastics,

cheerleading, cycling/endurance sports, lightweight boxing and rowing). They compared these athletes with elite athletes from non-leanness focussed sports (ball sports, water polo and heavy weight rowing) as well as recreationally competitive athletes and non-competitive athletes (Kong & Harris, 2015). Krentz and Warschburger (2011) investigated the prevalence of eating disorders amongst elite athletes competing in sports which put a high demand on aesthetics (ice figure skating, gymnastics, ballet, roller-skate figure skating, diving and rhythmic gymnastics) compared to a sex-matched, non-athlete control group. Participants in both investigations completed a battery of assessments to determine sport-related correlates of disordered eating, including the EAT-26 (Krentz & Warschburger, 2011; Kong & Harris, 2015).

Krentz and Warschburger (2011) found that elite athletes competing in sports which put a high demand on aesthetics reported significantly higher values for disordered eating compared to controls ($p=.03$). Similarly Kong and Harris (2015) found that 33.6% of elite athletes scored above the clinical cut off of the EAT-26 (≥ 20) suggesting a possible eating disorder, compared to 17% of the recreational athletes and 15% of the non-competitive athletes. They also reported a greater prevalence of possible eating disorders amongst leanness focussed athletes (35.1%) compared to the non-leanness focussed athletes (8.9%) ($p<.001$). These findings appear to support the conclusions of Michou and Costarelli (2011) that a higher prevalence of eating disorders amongst athletes may be related the sport's emphasis on leanness.

Figure skating.

Figure skaters are judged subjectively on their aesthetic appeal. Three papers included in this review have used versions of the EAT to report the prevalence of eating disorders amongst

elite female figure skaters competing in the USA. Dwyer et al. (2012) reported that 24% of their sample of 36 elite athletes scored above the cut-off of the EAT-40, suggesting clinical risk of eating pathology. These elite athletes demonstrated a significantly higher prevalence of eating pathology compared to the prevalence of AN (0.3%) and BN (1.3%) in a nationally representative sample of USA females of a similar age reported in mainstream literature (Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). Ziegler et al. (1998) found that 2 out of their sample of 21 female elite figure skaters scored above the clinical cut off of the EAT-26, concluding that a generalised eating pathology amongst this population had not been revealed.

The relatively small samples used in these papers somewhat limit the generalizability of their findings, however, in a larger study (N= 272) conducted by Voelker et al. (2014) 13.2% of elite skaters met the EAT's cut off for problematic eating attitudes and behaviours. The authors point out their research protocol, requiring the approval of coaches, club presidents and programme directors to recruit athletes, potentially biased their findings, resulting in fewer recorded cases of eating pathology (Voelker et al., 2014). Despite this limitation, their findings further support the suggestion that the prevalence of eating pathology is higher amongst elite figure skaters than that seen in the general population. These studies go some way to support the assumption that eating pathology amongst elite female athletes may be related to the aesthetic nature of some sports (Hudson, Hiripi, Pope, & Kessler, 2007).

Endurance running.

Distance running emphasises the importance of a leaner body for athletic performance, rather than aesthetic appeal. Hulley and Hill (2001) used the EDE-Q to investigate the prevalence of eating disorders amongst 226 top ranking UK elite female distance runners. In a later

investigation of the effect of nationality and athletic environment on the development of eating disorders, Hulley et al. (2007) also included a sample of UK elite female runners, as well as Kenyan elite female runners and control subjects matched for age and either socioeconomic status or cultural background.

Hulley and Hill (2001) reported that 16% of UK elite female distance runners presented with an eating disorder at the time of the study, with an estimated prevalence of 3.8% for AN, 1.1% for BN and 10.9% for Eating Disorder Not Otherwise Specified. These findings suggest that UK elite female distance runners have a significantly higher prevalence of eating disorders than the general population when compared to the incidence rates reported in mainstream literature of AN (4.7) and BN (6.6) reported per 100,000 population in the UK (Currin, Schmidt, Treasure, & Jick, 2005). This finding was supported by Hulley et al. (2007) who found that 19.5% of UK female elite distance runners had current or past eating disorder diagnoses compared to 14.4% of the UK control group. However, Hulley et al. (2007) report that Kenyan athletes had the lowest prevalence (4.4%) of past or present eating disorders compared to UK athletes and UK and Kenyan controls. This suggests that the athletic environment of elite distance running itself does not predispose athletes to eating disorders but that there is a possible interaction with other cultural, physiological or environmental factors relating to ideal body weight and performance (Hulley et al., 2007).

Summary.

These investigations provide useful insights into disordered eating of elite athletes competing in sports which do and do not emphasise leanness. The findings of papers using self-report measures appear to suggest no significant difference between the prevalence of eating pathology amongst elite athletes competing in sports which do not emphasise the importance

of a lean body for success and the general population. However, when samples include only those elite athletes who participate in sports which emphasise a lean body for success, there appears to be a significantly higher prevalence of eating pathology in these elite athletes to that reported in the general population.

The self-report measures of eating pathology described in this review have several advantages in that they are relatively quick and cost effective to administer and can be completed at the participant's convenience. They allow for anonymity which is likely to maximise recruitment potential, given the stigma and implications of diagnoses of eating disorders. However, these investigations have some limitations as self-report measures may result in a minimisation or magnification of eating disorder symptoms in respondents (Anderson et al., 2009). It is also possible that some items related to the specialist dietary requirements of athletes, rather than disordered eating behaviours (Michou & Costarelli, 2011). Furthermore, many of the measures used, including the EAT and the EDI, are recommended as initial screening tools only, rather than as diagnostic measures.

Studies of prevalence of eating pathology amongst elite athletes using clinical interviews.

Four papers used standardised clinical interviews, the most clinically validated diagnostic tool, to determine the prevalence of eating disorders amongst elite athletes (see Table 3) (Anderson, Lundgren, Shapiro, & Paulosky, 2004). Three papers were conducted with Norwegian athletes by Sundgot-Borgen in collaboration with other researchers and the fourth was conducted with Australian athletes by Byrne and McLean (2002).

Byrne and McLean's (2002) investigation drew a comparison between the prevalence of eating disorders in elite athletes competing in "Thin-build" sports, which stress the importance of a lean physique, with athletes competing in "normal-build sports", and non-athletes matched in gender, age, ethnicity and level of education. Participants were interviewed by the first author, a clinical psychologist, using the Composite International Diagnostic Interview (CIDI) to identify subjects who met the Diagnostic criteria for AN, BN or Eating Disorder Not Otherwise Specified (Byrne & McLean, 2002). The CIDI has acceptable inter-rater and test-retest reliability (Romera et al., 2002). Participants later completed a range of self-report measures to determine specific eating attitudes and behaviours (Byrne & McLean, 2002).

Based on the CIDI interview, Byrne and McLean (2002) found that 15% of athletes competing in "Thin-build" sports, 2% of athletes competing in "Normal-build" sports and 1% of non-athletes met the diagnostic criteria for AN or BN. A further 16% of athletes competing in "Thin-build" sports, 7% of athletes competing in "Normal-build sports" and 5% of non-athletes met the criteria for Eating Disorder Not Otherwise Specified (Byrne & McLean, 2002). The authors believe that partly administering the CIDI via computer allowed participants to preserve their anonymity and may have encouraged more frank disclosure of symptoms than a face-to-face interview (Byrne & McLean, 2002).

The three articles by the Norwegian authors differ from the Byrne and McLean (2002) paper in that they all used the EDI as an initial screening tool to identify athletes 'at risk' of eating disorders prior to conducting clinical interviews. Sundgot-Borgen (1994b) examined risk factors for eating disorders in elite female athletes competing in 35 different sporting events, subdivided into 6 groups (see Table 3). The initial screening involved a battery of

questionnaires including the EDI (Sundgot-Borgen, 1994b). This screening identified 117 (22.4%) athletes as 'at-risk' of developing an eating disorder due to raised scores on the Drive For Thinness and Body Dissatisfaction subscales of the EDI who were matched on age, community residence and sport with 30 athlete controls who were not identified as 'at-risk' (Sundgot-Borgen, 1994b). The second stage involved a clinical interview, the protocol of which was developed as part of the Diagnostic Survey for Eating Disorders used to characterise aspects of AN and BN (Sundgot-Borgen, 1994b).

Of the athletes deemed 'at-risk' of eating disorders, 89% were classified as having an eating disorder following clinical interview (Sundgot-Borgen, 1994b). According to mainstream literature this is significantly higher than rates found in the general population in Norway (Götestam & Agras, 1995). The prevalence of eating disorders was also significantly higher amongst athletes competing in aesthetic and low weight dependent sports than other sport groups ($p < .05$) (Sundgot-Borgen, 1994b).

This paper demonstrates the strong relationship between scores on the EDI and eating disorder diagnosis as determined by clinical interview. However, the clinical interview used in this investigation was developed as part of a self-report measure for eating pathology and is not well established as a standardised clinical interview for eating disorders. Byrne and McLean (2002) recognise that the CIDI is not the clinical interview of choice for most clinicians and that the Eating Disorder Examination (EDE) is generally considered the gold standard in eating disorder diagnostic interviews.

Both the Sundgot-Borgen and Torstveit (2004) and the Torstveit et al. (2008) papers used the EDE clinical interview to determine the prevalence of eating disorders amongst elite athletes

and were included in the review by Sundgot-Borgen and Torstveit (2010) discussed earlier in this paper. Sundgot-Borgen and Torstveit (2004) aimed to examine the prevalence of eating disorders in the total population of elite athletes representing Norwegian national teams, whereas the Torstveit et al. (2008) study included a sample of just Norwegian female elite athletes. Both used a sample of the general population as a control group and subdivided athletes into sports groups including; technical, endurance, aesthetic, weight class, ball game, power, antigravitation and motor sports (Sundgot-Borgen & Torstveit, 2010; Torstveit et al., 2008). Torstveit et al. (2008) further divided their athletes into those who competed in leanness sports and non-leanness sports (see Table 3).

Both investigations included an initial screening of participants using a questionnaire which included subscales of the EDI and aimed to identify elite athletes and control subjects deemed “at risk” of eating disorders or the FAT. Sundgot-Borgen and Torstveit’s (2004) criteria for ‘at-risk’ classification was high scores on the subtests of the EDI, positive responses to two or more questions related to symptoms of eating disorders and/or self-reported eating disorders. Torstveit et al. (2008) classified a low Body Mass Index (BMI), use of Pathogenic Weight Control Measures, high scores on the subtests of the EDI, self-reports of menstrual dysfunction or stress fractures as ‘at-risk’ responses.

Sundgot-Borgen and Torstveit’s (2004) identified 182 (14.5%) athletes and 103 (8.6%) control participants as at-risk of eating disorders. These groups were then matched in gender with athletes (N= 121 females and 61 males) and controls (N= 81 females and 22 males) who were deemed not at risk of eating disorders from their responses to the initial screening. Torstveit et al. (2008) selected a random sample of 186 athletes and 145 controls who were considered as having a “risk profile” for FAT and stratified them into age groups. In both

investigations, these stratified groups were then invited to participate in a clinical interview conducted by a specialist in eating disorders.

Following the clinical interview, Sundgot-Borgen and Torstveit (2004) found a higher prevalence of diagnosable eating disorders amongst elite athletes (13.5%) than controls (4.6%; $p < .001$). In males they noted a significantly higher prevalence of eating disorders in weight class sports than ball games sports ($p < .001$) and in antigravitation sports than ball game sports ($p = .002$) (Sundgot-Borgen & Torstveit, 2004). For females they noted a significantly higher prevalence of eating disorders in aesthetic sports than technical sports ($p = .002$) and in aesthetic sports than ball games sports ($p < .001$) (Sundgot-Borgen & Torstveit, 2004). These findings suggest a higher prevalence of eating disorders in elite athletes than the general population and that sports which emphasise a lean body, such as weight class sports, anti-gravitation sports or aesthetic sports, appear to have a higher prevalence of eating disordered athletes than sports which do not emphasise a lean body such as ball game or technical sports.

Similarly Torstveit et al. (2008) found a higher prevalence of diagnosed eating disorders amongst the at-risk athletes competing in leanness sports (46.7%) compared with controls (21.4%) ($p < .001$) and athletes competing in non-leanness sports (19.8%). Although the authors note that overall there was no significant difference between the prevalence of eating disorders amongst athletes and controls once age had been controlled for (Torstveit et al., 2008). This finding reflects those of papers discussed previously who failed to find a significant difference between athletes and controls when factors related to the type of sport was not controlled for (Gomes et al., 2011; Hausenblas & McNally, 2004).

Summary.

Eating disorders amongst elite athletes have been investigated in some depth relative to other mental health disorders in this population. The majority of papers have utilised well validated self-report measures to investigate eating disorders amongst elite athletes. The strengths and difficulties of this type of measurement have been discussed. Subsequently, whilst some articles included in this review have reported the findings from these measures as prevalence rates of eating disorders, others have chosen to report their outcomes as the prevalence rates of disordered eating attitudes. It would appear that the greatest difference in prevalence rates has been found when comparing elite athletes competing in sports which emphasise the importance of a lean body, such as figure skating and distance running, with control groups of the general population. These findings have been supported by investigations using clinical interviews to determine eating disorder diagnosis amongst elite athletes.

Although useful in informing our understanding of the eating disorders amongst the elite athlete population, these investigations do not allow for the determination of any causal relationship between the prevalence of eating disorders and elite athletes competing in sports which emphasise a lean body ideal. It is possible that the culture of these sports foster attitudes which lead to the development of disordered eating, however, it is equally plausible that athletes with pre-existing disordered eating behaviours are attracted to sports which emphasise a lean body. Further investigations, including longitudinal studies, are required to provide a better understanding of this relationship, as well as insight into how eating disorders are understood and managed by athletes, coaches and sports organisations (Tan et al., 2012). Additionally, research is required using samples of athletes from non-Western cultures to investigate the effect of wider sociocultural pressures of the body ideal.

Summary and Conclusions

The role of an elite athlete requires extreme dedication, often at cost of alternative identities and involves high levels of stress. Identity and diathesis-stress models of psychopathology suggest these factors may make elite athletes vulnerable to mental ill-health. Despite this, mental ill-health amongst the elite athlete population is an under researched area. Possible explanations for this include a stigma surrounding mental ill-health amongst sporting organisations as well as masculine values which encourage athletes to minimise signs of perceived weakness. Other issues include the misdiagnosis of mental health conditions due to physicians' assumptions about athletes. Possibly due to their more visible presentation, eating disorders amongst elite athletes have received proportionality more research attention than other conditions. It is possible that eating disorders represent the tip of the iceberg, raising questions about the hidden depths of less visible mental health issues amongst the elite athlete population which have yet to be thoroughly examined.

The findings of this review suggest that overall prevalence rates of common mental health difficulties reflect that found amongst the general population. However, no studies have been conducted to specifically investigate the prevalence of anxiety disorders amongst elite athletes. This gap in the literature is surprising and reasons for this are unclear. Reports of the prevalence of depressive disorders amongst elite athletes are somewhat mixed, possibly due to the samples of these studies being relatively small.

According to Sundgot-Borgen & Torstveit (2010) there has been an increase in the prevalence of eating pathology amongst elite athletes and the general population over time. Although several papers reported no significant difference between the prevalence of eating disorders amongst elite athletes and non-athlete controls or the general population, this is

possibly due to samples being drawn from sports which do not emphasise the need of a lean body for success. Papers which included samples of athletes competing in sports which emphasise the need for a lean body for aesthetics, in particular figure skating, or to improve athletic performance, such as distance running, reported significantly higher values of disordered eating amongst these athletes than controls. Interestingly, this effect was not found amongst athletes from non-Western cultures, which raises questions about the impact of physiological and sociocultural factors outside of the sporting environment.

Review Limitations

Conclusions drawn from this literature review are done so cautiously due to the methodological differences between papers. A large proportion of investigations used self-report measures which, although often well validated and reliable, are not considered suitable for the diagnosis of mental disorders and are therefore limited in their ability to report true prevalence. Whilst clinical interviews are deemed the diagnostic standard, their lack of anonymity may inhibit athletes from disclosing mental health difficulties. The samples of these investigations also vary greatly. Elite athlete samples were drawn from a range of sporting events, with their own unique demands, pressures and cultural norms which will likely variably impact on the mental health of the athlete. Linked to this is the fact that only one paper in this review included a sample from a non-Western culture and findings suggested important cultural differences. This raises questions about the use of eating attitude measures developed in a Western culture with those from non-Western populations, but also suggests the need for further research amongst elite athletes from cultures different from our own.

Theoretical Implications and Areas for Future Research

Diathesis-stress and identity models of mental health appear to go some way to explaining the increased prevalence of eating pathology amongst elite athletes competing in sports which emphasise the need for a lean body. The levels of required dedication and early age at which these athletes begin sport specific training compared to non-leanness sport athletes, are likely to limit their development of alternative identities or coping strategies known to be protective against the development of mental ill-health. Additionally, as suggested by the sociocultural model of eating pathology, these individuals are likely to experience high levels of pressure to be lean through self-comparison with other competitors and potentially from coaches and team mates. These factors may well result in other, less visual, mental health conditions amongst elite athletes in similar situations, however, limited research into these conditions has been conducted to this point.

The fact that several of the papers appear to suggest that a proportion of athletes are able to perform at an elite level despite having high levels of clinical psychopathology, raises considerable theoretical questions about the impact of mental ill-health on functioning. It is possible that these individuals would perform at an even higher standard if they were to be successfully treated for these pathologies. However, the possibility must be considered that aspects of these difficulties may promote high levels of training and performance amongst elite athletes. If this were the case, it would have far reaching implications for mainstream conceptualisations of psychopathology as always problematic or disabling.

Further investigations are required into factors within the athlete's culture which may influence the development and diagnosis of mental health difficulties such as an ethos of normalising pathogenic weight control or perfectionistic behaviours amongst elite athletes

due to their association with perfectionism and success. Additionally, further research into the prevalence of mental ill-health amongst elite athletes from non-Western cultures would allow greater insight into the mechanisms underlying mental ill-health amongst elite athletes and the role larger cultural norms have to play. Finally, despite some research suggesting significant stigmatisation of the mental ill-health, little is known about whether this issue is recognised or understood within the culture of the elite athlete and how it is thought about and experienced by elite athletes and coaches.

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MAJOR RESEARCH PROJECT
ISOBELLE J. R. BIGGIN BSc Hons

Section B:

An Investigation of Athletes' and Coaches' Perceptions of Mental Ill-
Health in Elite Athletes

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Abstract

Research suggests elite athletes have an equal, possibly higher, probability of developing mental ill-health as the general population, however understanding of these issues amongst athletes and coaches remains largely unknown. The perceptions of 20 elite athletes and 16 elite coaches of mental ill-health amongst elite athletes were explored. Two concurrent, three round Delphi methods, using descriptive statistics and thematic analysis, were used to compare groups' responses.

Athletes and coaches expressed different opinions and experiences of mental ill-health amongst elite athletes. However, both felt the pressure athletes place upon themselves is a significant contributing factor and that OCD and anxiety may be particularly prevalent. Whilst associated stigma was thought to be a barrier to support seeking, both groups felt sport and clinical psychologists would provide the most appropriate support, with coaches playing an important role.

Implications for coaches, clinical and sport psychologists are explored and suggestions for future research are presented.

Key words: elite, athlete, coach, mental ill-health, Delphi.

Introduction

Models of Mental Health Amongst Elite Athletes

Diathesis-stress models of psychopathology suggest that everyone possess psychological factors which predispose them to develop mental ill-health to some extent, and that these interact with the levels of stress experienced to develop mental health issues (Ingram & Luxton, 2005). Research also suggests that role identities can be protective against mental distress (Thoits, 1991). Yet, the fewer identities a person possesses the greater the investment in these identities is likely to be (Hoelter, 1983) and the greater likelihood that self-esteem and well-being may be negatively impacted if the individual fails to meet expectations in identity performance (Thoits, 1983). A psychological model of distress incorporating individual stress vulnerability and role identity would be well applied to those in stressful roles which demand high commitment levels and where failure comes at a great cost. Such is the role of an elite athlete, which demands dedication as well as involving a high level of unique life stressors including; pressure to consistently perform, overtraining, burnout and body perfectionism (Hanton, Fletcher, & Coughlan, 2005).

Prevalence

Despite having protective factors such as good health, employment, support networks and the benefits of exercise (Scully, Kremer, Meade, Graham, & Dudgeon, 1998), research suggests that elite athletes are just as likely as the general population, if not more so, to develop mental ill-health (Gulliver, Griffiths, & Mackinnon, 2014; Schaal et al., 2011). Eating disorders are the most extensively researched mental health disorder amongst elite athletes, however it appears that their prevalence differs depending on the type of sport competed in. Several studies report no significant difference between the prevalence of eating pathology amongst

elite athletes competing in sports which do not emphasise the importance of a lean body e.g. basketball, and the general population (Michou & Costarelli, 2011; Gomes, Martins, & Silva, 2011; Hausenblas & McNally, 2004; Toro et al., 2005). However, when elite athlete samples only include those from sports which emphasise a lean body for success e.g. gymnastics and figure skating, the prevalence of eating pathology amongst this population appears to be significantly higher than that reported in the general population (Kong & Harris, 2015; Krentz & Warschburger, 2011; Voelker, Gould, & Reel, 2014; Hulley & Hill, 2001).

Investigations of other mental disorders have reported a prevalence rate of Major Depressive Disorder (MDD) amongst German professional athletes of 15% (Nixdorf, Frank, Hautzinger, & Beckmann, 2013), which is comparable to that seen amongst the German general population which ranges from 6-17% according to Jacobi et al. (2004) (as cited in Nixdorf et al., 2013). However, Hammond, Gialloreti, Kubas, and Davis (2013) found that 68% of elite Canadian swimmers met the criteria for MDD in the previous 36 months to their investigation. Gulliver et al. (2014) also reported 23.6% of males and 30.5% of females from their Australian sample of elite athletes had a possible depressive disorder compared to 6.3% of the Australian general population (Andrews, Henderson, & Hall, 2008). Although their findings vary, these investigations suggest that depressive disorders are at least as prevalent amongst elite athletes as amongst the general population. Gulliver et al. (2014) also found that 7.1% of elite athletes met the criteria for Generalised Anxiety Disorder (GAD) and 4.5% for panic disorder, which appear significantly higher than reports in the mainstream literature of rates amongst the Australian general population of GAD (2.6%) and panic disorder (1.1%) (Andrews et al., 2008). Despite this paper reporting relatively high rates of GAD amongst

elite athletes, no studies have specifically investigated the prevalence of anxiety disorders amongst this population. The reasons for this apparent gap in the literature are unclear.

Stigma

Mental ill-health amongst elite athletes remains a largely under researched area. This has been attributed to stigma surrounding the issue amongst sporting environments and a culture which socialises athletes to minimise signs of perceived weakness (Reardon & Factor, 2010). Elite athletes then, may be less likely to seek support for mental health issues (Glick, Stillman, Reardon, & Ritvo, 2012) due to the potential associated risks including; exclusion from the team, being unable to compete, loss of livelihood and athletic identity (Gulliver, Griffiths, & Christensen, 2012; Gulliver, Griffiths, Mackinnon, et al., 2012; Linder, Pillow, & Reno, 1989). Other researchers have suggested that the culture's normalisation of mental health issues amongst elite athletes may also have resulted in their under recognition. Tan, Bloodworth, McNamee and Hewitt (2012) suggest that the pursuit of thinness may be viewed positively within a sporting culture due to the advantages it holds to athletic success, whereas it would be seen as unhealthy within a healthcare setting. Similarly athletes presenting with depression may be diagnosed as 'burnt-out' due to similar presentations (Reardon & Factor, 2010) and physicians viewing symptoms from a narrow physiological perspective, influenced by the stigmatisation of mental illness (Schwenk, 2000).

Athlete- Coach Relationship

The athlete- coach relationship significantly influences the athlete's development as a performer but also as a person (Jowett, 2005) and is posited to comprise three facets;

closeness, co-orientation and complementarity (Jowett & Cockerill, 2003). This relationship has been proposed as a positive way to promote appropriate help seeking for mental health issues amongst young people, resulting in several mental health training courses for non-elite community coaches (Bapat, Jorm, & Lawrence, 2009; Pierce, Liaw, Dobell, & Anderson, 2010). However, research suggests that some coaches of elite athletes may minimise the prevalence of mental health issues within their sport (Nowicka, Eli, Ng, Apitzsch, & Sundgot-Borgen, 2013), whilst others do not feel that they could identify an athlete experiencing mental ill-health (Vaughan, King, & Cottrell, 2004).

Present Study

Research suggests that elite athletes have an equal, if not higher, probability of developing mental ill-health as the general population. However, due to entrenched stigmatisation of mental disorders within elite sports, diagnostic overshadowing by physicians and athletes' reluctance to admit they are experiencing difficulties, the true extent of these issues remains unknown. The dedicated and somewhat isolating nature of elite sports means that sport coaches are amongst the best placed individuals to recognise and support athletes experiencing these difficulties and are referred to as the gatekeepers to referral of athletes to mental health professionals (Mazzer & Rickwood, 2009). In summary, understanding of the development and identification of mental health issues among elite athletes and coaches remain largely unknown. Accordingly, the purpose of this investigation was to explore elite athlete and coaches' perceptions of the issues surrounding mental ill-health amongst elite athletes. The following research questions were addressed:

- 1) What are elite athletes' and coaches perceptions of the prevalence of mental ill-health amongst elite athletes?

- 2) Which factors do they believe contribute to elite athletes developing mental ill-health?
- 3) What do they perceive to be the barriers to elite athletes accessing support for mental ill-health?
- 4) How do they believe elite athletes experiencing mental ill-health should be best supported?
- 5) What role do they perceive coaches' play in working with elite athletes with mental ill-health?

Method

Participant Recruitment

A number of strategies were used to acquire a representative sample of elite athletes and coaches. Sport national governing bodies and regional sports clubs were emailed and asked to forward the details of the study to coach and athlete contacts who met the inclusion criteria. An advertisement was placed on athlete and coaching website forum pages, and a post about the project was published on a sporting blog, two coaching blogs and a clinical psychology blog, requesting that interested parties contact the researcher for further details. The social media site Twitter was used to contact potential athlete and coach participants, directing them to an online participant information sheet containing the researcher's contact details. The researcher's and supervisors' personal contacts and snowball sampling were also used to recruit participants.

Participants

Participants were included in the study if they were able bodied athletes who had represented the United Kingdom (UK) or Great Britain (GB) in their sporting event at some point in the past two years from the start of data collection, or if they were a coach working in the UK who had their level 2 or above coaching qualification and who had coached an athlete who had represented the UK or GB in the past 2 years. Adult participants who were able to provide their own consent to participate were included in this investigation.

Ethics

Ethics approval was granted by a University Ethics Committee (see appendix C). The British Psychology Society (BPS) Code of Ethics and Conduct (2009) was adhered to throughout.

Interested parties contacted the researcher via email and were sent an electronic copy of the participant information sheet which comprehensively outlined the study and included a management plan for addressing distress reported by participants (see appendix D).

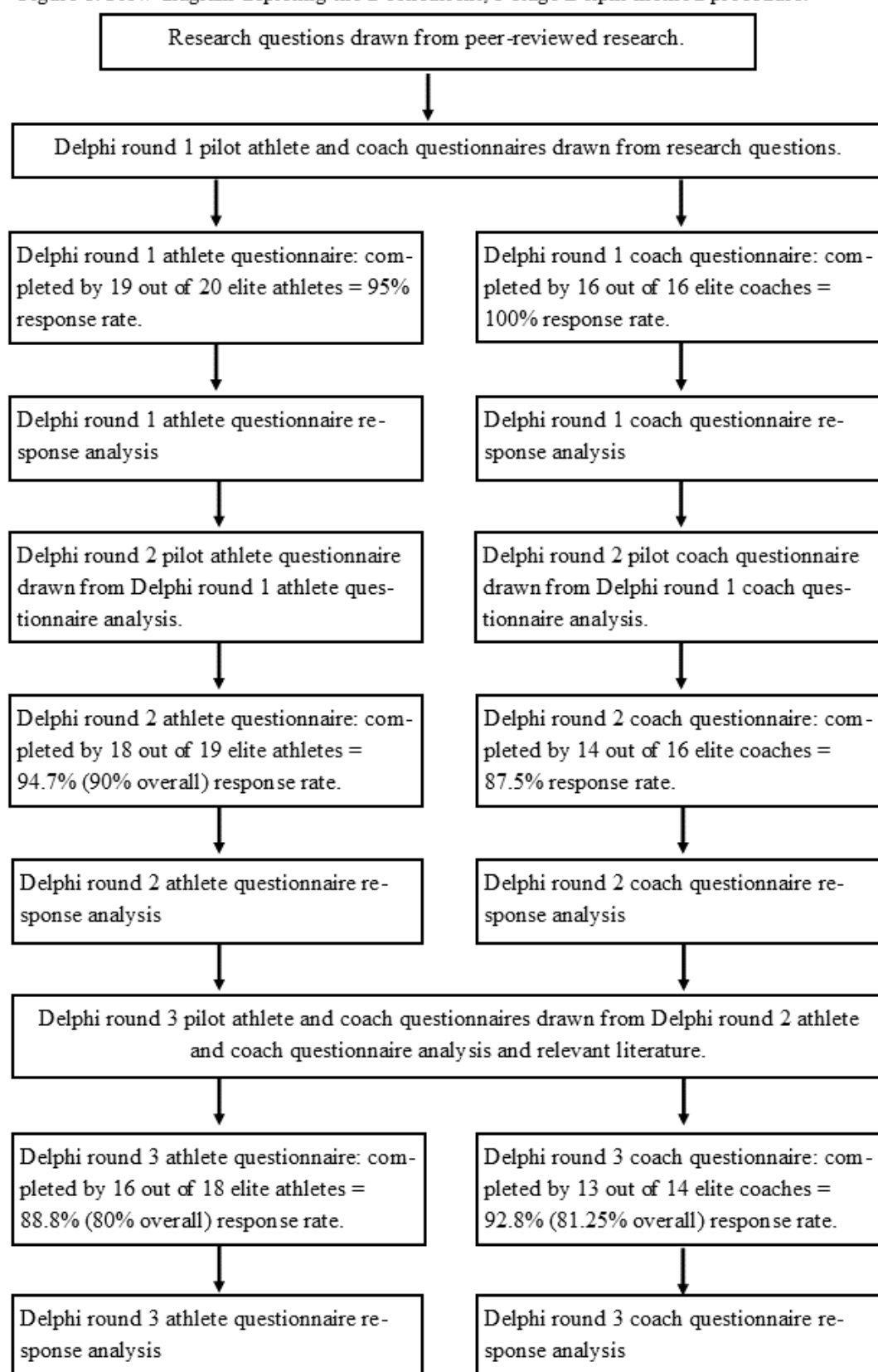
Participants completed an electronic consent form and return it to the researcher via email (see appendix E). Participants were allocated an individual participant code which allowed them to participate anonymously. They were informed that their anonymous responses to online questionnaires would be shared with other participants and may be included in the write up of this investigation and future publications, but that all identifiable information would be stored on an encrypted memory stick by the researcher. A commitment was made to participants that following the completion of the project they would be emailed a brief outline of the results of the investigation.

Design

The study utilised a 3 round Delphi method to explore the experiences and views of a group of elite athletes and a group of elite coaches about mental ill-health amongst elite athletes. Through rounds of anonymous questionnaires, the Delphi method is widely used to clarify opinion via the real-world knowledge of experts about a particular topic (Hsu & Sandford, 2007). Ideas or qualitative comments made in the initial round are fed back to participants through the second round questionnaire. After analysis of group collective opinion, the responses from this round are used to formulate the third and final questionnaire which aims to further clarify consensus and divergence of opinion within the expert group (Hasson, Keeney, & McKenna, 2000).

Delphi method investigations vary considerably in the sample size of experts recruited. It is recommended that the more disparate the expert group the larger the sample required, whereas a homogenous sample of 10-15 experts would likely yield sufficient results (Skulmoski, Hartman, & Krahn, 2007). Due to the expected divergence of views and experiences between elite athletes and elite coaches on the topic of mental health amongst elite athletes, it was felt that two separate groups of experts, completing concurrent Delphi methods would elicit more meaningful results than one larger sample combining the two expert groups. This study recruited a total of 20 elite athletes and 16 elite coaches. A diagram depicting the study's procedure is presented in Figure 1. An online Delphi methodology was chosen due to the small population of elite athletes and coaches, participants residing across a large geographical area and due to the sensitive nature of topic being discussed, which may have inhibited participation in face-to-face interactions (Eun-ok & Wonshik, 2012).

Figure 1. Flow diagram depicting the 2 concurrent, 3 stage Delphi method procedure.



Procedure

Bristol Online Survey software was used to develop and administer the online questionnaires used in this investigation, each taking less than 30 minutes for participants to complete. The first round of questionnaires for athletes and coaches were identical, with minor alterations to the wording of items to make them applicable to each group (see appendices H and I). These questionnaires included relevant demographic questions and broad open-ended items based on the research questions intended to widely open the topic area. Participants were sent an electronic link to the online survey which they were asked to complete at their convenience within 2 weeks. Weekly reminders were sent to participants who had not completed the questionnaire following this period. If the participant did not complete the questionnaire within 5 weeks of the deadline it was assumed that they no longer wished to participate in the investigation and were not included in subsequent rounds.

Significant themes drawn from each groups' qualitative responses to the first round questionnaire were fed back through each groups' second round questionnaire. Further details of the development of the second and third Delphi rounds are described in the results section. Variation in responses between the groups' were reflected in the second round questionnaires. Participants rated their agreement with, or ranked the importance of, significant themes from the initial round with the aim of generating some consensus on issues within groups.

The final round questionnaire brought together issues raised from the previous 2 rounds and related literature, with the aim of further clarifying expert group opinion on these issues. It

also aimed to gather athletes' and coaches' opinions on the reasons for identified diversity in responses between the two groups. Therefore the final round questionnaire included responses from both the athlete and coach expert groups, presented in visual diagrams, and asked participants to speculate about the reasons for the diversity in opinion between groups. The groups' responses to the third questionnaire were analysed separately to identify significant themes as well as agreement and divergence of opinion within and between groups.

Data Analysis

Quantitative information gathered from expert groups' responses to online questionnaires were analysed using basic descriptive statistics. Qualitative information was analysed using thematic analysis procedures described by Braun and Clarke (2006) to identify patterns of meaning or 'themes' from the data. Significant themes were determined by either a high number of responses relating to the theme or the theme's relationship with the literature. Thematic analysis is well suited to research investigating the nature of a group's understanding of a phenomena (Joffe, 2012). Joffe (2012) points out that thematic analysis allows for a dual deductive-inductive, latent-manifest approach to theme identification, with data being analysed using categories derived from the existing literature (deductive standpoint) whilst allowing the researcher to be open to new themes emerging from the data. This approach suited the researcher's critical realist standpoint.

Quality Assurance Checks

Before each Delphi round, questionnaires were piloted by athletes and coaches known to the researcher. Feedback from pilot participants ensured that the questionnaires were comprehensible and that there were no procedural difficulties prior to completion by research participants. There is an inherently reflexive nature to the Delphi process whereby the validity of themes generated by the researcher are checked and responded to by participants in later Delphi rounds. The spread of participants' quantitative responses was reviewed in case particularly strong views of any one participant skewed the findings. During qualitative data analysis the researcher was guided by Braun and Clarke's (2006) criteria for good thematic analysis and mindful of the potential for her knowledge of the literature around mental ill-health amongst elite athletes to impact upon coding. An audit trail of theme development was kept (see appendix F for example) and themes discussed and checked with the research supervisors.

Results

Presentation of Analysis and Results

Analysis of data and results relating to each research question is structured within the three rounds of the Delphi method. The Delphi methodology's nature dictates that the findings of each round's questionnaire determines the direction of further enquiry through the development of the subsequent Delphi round questionnaire. Consequently the method of data analysis is dependent upon the nature of the questionnaire. A summary of results from each Delphi round and how these led to the development of the subsequent Delphi round questionnaire is included at each stage.

Participants

A summary of participant demographic characteristics is presented in Table 1.

Table 1: Elite athlete and coach participant demographic information

Characteristic	Athlete (N = 19)		Coach (N = 16)	
Age in years				
Mean	31.8		43.1	
Range	22-59		27- 61	
Gender				
Male	9		12	
Female	10		4	
Type of sport	Competed in		Coached	
Individual	13		2	
Team	6		4	
Both	-		9	
Sports	Competed in		Coached	
Athletics	-		3	
Basketball	-		5	
Cycling	3		-	
Lacrosse	-		2	
Running	4		-	
Target shooting	4		2	
Touch Rugby	4		-	
Triathlon	7		-	
Other ^a	4		8	
Coaching level (or equivalent to)				
Level 2			2	
Level 3			10	
Level 4			2	
Level 5			2	
Years of international experience	Competing		Coaching	
Mean	5.7		10.75	
Range	<1- 30		1- 20	
International experience	Competing	Coaching	Competing	Coaching
Yes	19	-	9	16
No	-	19	7	-
Roles identified with				
Athlete	19		6	
Coach	2		16	
Daughter/ son	8		9	
Husband/ wife/ partner	9		10	
Parent	1		10	
Professional	5		9	
Other	2		2	

Note. Participants were asked to select all responses that applied to them resulting in more responses per category than participants per group.

^aSports only listed once have been grouped into 'other' in this table. For a complete list of sports coached and competed in see Appendix G.

Delphi Round One

Delphi round one questionnaire development.

The development of the initial round Delphi questionnaire was described in the methodology (see appendices H and I).

Delphi round one data analysis.

Quantitative responses to the Delphi round one questionnaire were analysed using descriptive statistics to give categorical percentages, whilst qualitative responses were analysed using thematic analysis to generate significant themes from each expert group. In an attempt to understand the prevalence of mental ill-health amongst elite athletes, participants were asked to describe any previous experience they had had of mental ill-health. A percentage calculation was made of the responses by athletes including reports of personal experiences of some form of mental ill-health as well as reports from coaches of some personal experience of having witnessed mental ill-health amongst athletes they had coached.

Delphi round one results.**What do athletes and coaches perceive to be the prevalence of mental ill-health amongst elite athletes?**

The percentage of athletes who reported having personally experienced some form of mental ill-health, coaches who reported having witnessed mental ill-health amongst athletes and both groups beliefs of the likelihood of elite athletes developing mental ill-health compared to the general population is presented in Table 2.

Table 2: Athletes' and coaches' experiences and beliefs regarding mental ill-health amongst elite athletes

Athletes' personal experiences of mental ill-health				
N	Yes	No		
19	73.7% (n= 14)	26.3% (n= 5)		
Coaches' experiences of witnessing mental ill-health amongst athletes				
N	Yes	No		
16	37.5% (n= 6)	62.5% (n= 10)		
Likelihood elite athletes will develop mental ill-health compared to the general population				
	Athletes	Coaches	Coaches who competed internationally (n= 9)	Coaches who didn't compete internationally (n= 7)
More likely	47.4% (n= 9)	25% (n= 4)	11.1% (n= 1)	42.8% (n= 3)
Neither more nor less likely	42.1% (n= 8)	62.5% (n= 10)	88.9% (n= 8)	28.6% (n= 2)

Less likely	10.5% (n= 2)	12.5% (n= 2)	28.6% (n= 2)
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What factors do athletes and coaches believe contribute to mental ill-health amongst elite athletes?

Athletes and coaches highlighted several factors which they felt may contribute to mental ill-health amongst elite athletes as well as some protective factors and reasons why elite athletes are no more at risk than general population (Table 3).

Table 3: Factors perceived to relate to the development of mental ill-health in elite athletes

Athletes and coaches	Athletes	Coaches
Contributing factor: Elite athletes put pressure on themselves (Athletes n= 11; Coaches n= 5)	Contributing factor: Elite athletes being overly focussed on an 'athletic lifestyle' (n= 5)	Contributing factor: The end of an elite athlete's career (n= 7)
Contributing factor: Elite athletes experience concerns over weight, diet and body image (Athletes n= 11; Coaches n= 4)	Neutral factor: Everyone experiences life-stress (n= 5)	Contributing factor: Elite athletes' being single minded/ selfish (n= 3)
Contributing factor: Elite athletes perceive pressure from those around them (Athletes n= 18; Coaches n= 15)	Protective factor: Elite athletes have resilient personalities (n= 4)	Contributing factor: Elite athletes having a fear of failure (n= 3)
Contributing factor: Elite athletes experience financial pressures (Athletes n= 5; Coaches n= 4)		Contributing factor: Perfectionistic and obsessive/compulsive traits may be make elite athletes successful (n= 1)
Contributing factor: Elite athletes feeling isolated and lacking support (Athletes n= 4; Coaches n= 5)		Neutral factor: Mental ill-health can effect anyone (n= 8)

Contributing factor: Pressure to perform in training and competition (Athletes n= 11; Coaches n= 7)
Contributing factor: Pressure from the media (Athletes n= 2; Coaches n= 3)
Protective factor: Exercise is beneficial for mental well-being (Athletes n= 4; Coaches n= 4)

What do athletes and coaches believe are the barriers to elite athletes accessing support for mental ill-health?

Significant themes identified within both athletes' and coaches' responses related to barriers elite athletes face when accessing support for mental ill-health were; elite athletes believing admitting to mental ill-health is a sign of weakness, stigma associated with mental ill-health and a lack of knowledge and understanding of mental ill-health. Athletes alone mentioned the potential negative consequences of elite athletes accessing support, whilst coaches alone mentioned a lack of funding as a barrier.

How do athletes and coaches believe elite athletes experiencing mental ill-health should be supported?

Both athletes and coaches perceived there to be little, or were unaware of, specific support available for elite athletes experiencing mental ill-health. Examples of responses include; "*I have experienced little support.*" (Athlete 118) and "*it is not something I am aware of or have had to look into*" (Coach 131). Both groups suggested elite athletes being supported by

sport psychologists. Athletes suggested coaches may offer support (n= 4), whereas coaches mentioned support from members of the elite athlete's wider support team (n= 6). Although only coaches' suggested that support may be dependent on funding (n= 4), only athletes suggested elite athletes accessing mainstream services (n= 7).

In response to how elite athletes with mental ill-health might be best supported, both athletes and coaches suggested elite athletes who have experienced mental ill-health coming forward to discuss how they managed this and the need for an increase in knowledge of mental ill-health and how to access support. However only athletes suggested including mental health professionals in support networks (n= 5), specific support for elite athletes (n= 4) and a more holistic approach to the health of the elite athlete (n= 7).

What role(s) do athletes and coaches perceive coaches play (or could play) in working with elite athletes with mental ill-health?

Athletes and coaches stated that coaches have an important role in supporting elite athletes experiencing mental ill-health, however both groups suggested that there are limits to coaches' abilities to support due to inadequate resources and their own motives. Examples of responses include; "National coaches can become very focussed on performance of squads/teams and there is a risk that athletes experiencing mental ill-health will be side-lined" (Coach 127) and "from my experience coaches have been unequipped to deal with mental health problems" (Athlete 107). Both groups thought that coaches should be supportive of elite athletes experiencing mental ill-health, that they should be someone the elite athlete can talk to, that they should be able to recognise the signs and symptoms of

mental ill-health and sign-post elite athletes to appropriate support. However, only athletes thought coaches should be understanding of elite athletes experiencing mental ill-health (n=6).

Summary of Delphi round one results and development of the second Delphi round questionnaire.

Athletes and coaches differed in their personal experiences of mental ill-health amongst elite athletes and in their beliefs about the vulnerabilities of this group to such issues. Coaches who had previously competed at an international level themselves almost unanimously agreed that elite athletes are neither more nor less likely to develop mental ill-health compared to the general population. On the other hand there was more variance in beliefs amongst coaches who did not have this experience. Suggesting that personal experience may crystallise opinion, however, neither group suggested a strong belief that elite athletes were either more or less likely to develop mental ill-health compared to the general population. Both athletes and coaches reported several factors they thought may contribute to the development of mental ill-health amongst elite athletes, many they agreed on, as well as protective factors and reasons elite athletes have the same level of risk as the general population. To clarify consensus and divergence of opinion within and between groups, in the second Delphi round participants were asked to rate their agreement to statements around the likelihood of elite athletes developing mental ill-health using a 5-point Likert scale.

The theme derived from the coaches' that perfectionistic and obsessive/ compulsive traits may contribute to elite athletes' success (see Table 3) was of interest. There is a lack of

literature around obsessive compulsive tendencies amongst elite athletes and mixed literature around perfectionism (Stoeber, Stoll, Pescheck, & Otto, 2008; Flett & Hewitt, 2005). The researcher was interested in establishing whether this view was shared amongst coaches', therefore coaches were asked to rate their agreement and offer their opinion on questions relating to these points in the second round Delphi questionnaire.

Athletes and coaches suggested several barriers to accessing support and suggestions of better support for elite athletes experiencing mental ill-health, several of which both groups agreed on and some they did not. To clarify consensus and divergence of opinion, participants were fed back these suggestions in the second Delphi round (see appendices J and K) and asked to rank them in order of significance, helpfulness and appropriateness, similar to Delphi methods outlined by Schmidt (1997).

Both groups agreed that coaches play an important role in supporting elite athletes but that support may be limited by coaches' resources and personal motives. Athletes and coaches also agreed that current support is limited and not specific to elite athletes, however, the groups had varied views on support elite athletes currently access. To clarify consensus and divergence of opinion within and between groups, participants were asked to rate their agreement to statements around these points in the next Delphi round.

Delphi Round Two

Delphi round two data analysis.

To determine the degree of consensus and divergence of opinion between and within groups', percentage calculations were carried out on data from Likert scale ratings. In line with other studies of this kind (Hackett, Masson, & Phillips, 2006), the 5-point scales were collapsed into 3 bands (1-2, 3, 4-5) indicating the strength of agreement to each statement. Bands 1-2 indicated 'agreement' and bands 4-5 indicated 'disagreement'. As described by Vosmer, Hackett and Callanan (2009) consensus was defined in three levels; 'high consensus' was $\geq 80\%$ of participants responding to statements with 'agreement' or 'disagreement' (Green, Jones, Hughes, & Williams, 1999), 'medium consensus' was 65-79% and 'low consensus' was ≥ 51 -64%.

In order to determine some level of consensus based on expert groups' responses to questions requiring them to rank factors in order of significance, the methodology proposed by Kendall and Gibbons (1990) was used. To allow for the fact that respondents could choose not to rank some listed factors, each rank position was weighted with a numerical value (e.g. 1st rank position = 3, 2nd rank position = 2, 3rd rank position = 1), allowing the researcher to combine respondents' individual ranks to form rank totals. These were then ranked to determine the best estimate of true ranking in order of significance of these factors within groups.

Delphi round two results.**Which factors do athletes and coaches perceive to be most responsible for the development of mental ill-health amongst elite athletes?**

Consensus and divergence of opinion within expert groups in response to questions relating to factors responsible for the development of mental ill-health amongst elite athletes is presented in Table 4.

Table 4: Consensus of athletes' and coaches' opinion on factors responsible for the development of mental ill-health amongst elite athletes

Elite athletes are more likely than the general population to experience mental ill-health due to:	Athletes	Coaches
Being under a high level of pressure from multiple factors	Medium consensus agreement (72.2%, n= 13)	No consensus agreement (35.7%, n= 5) or disagreement (14.3%, n= 2)
Traits such as perfectionism or obsessive compulsive tendencies may actually contribute to elite athletes' success	N/A	Low consensus agreement (64.3%, n= 9)
Elite athletes are just as likely as the general population to experience mental ill-health due to:	Athletes	Coaches
Life stressors/ individual differences experienced by everyone	No consensus agreement (22.3%, n= 4) or disagreement (44.4%, n= 8)	No consensus agreement (50%, n= 7) or disagreement (14.3%; n= 2)
Elite athletes are less likely as the general population to experience mental ill-health due to:	Athletes	Coaches

Sport being beneficial to elite athletes' mental well-being	No consensus agreement (44.4%, n= 7) or disagreement (38.9%, n= 8)	Low consensus disagreement (57.1%, n= 8)
Elite athletes having resilient personalities	Medium consensus disagreement (66.70%, n= 12)	N/A
Note: Not applicable (N/A) has been used where the statement was not used in the expert groups' Delphi questionnaire due to it not being generated from the previous round.		

The three most relevant factors which may contribute to elite athletes developing mental ill-health as ranked by athletes and coaches are presented in Table 5.

Table 5: Most relevant factors which may contribute to elite athletes developing mental ill-health

Athletes	Coaches
<ol style="list-style-type: none"> 1. Pressure elite athletes put upon themselves 2. Fear of failing in their aims 3. Injury 	<ol style="list-style-type: none"> 1. Pressure elite athletes put upon themselves 2. Performing below expectations 3. Being concerned with letting others down

What do athletes and coaches believe are the barriers to elite athletes accessing support for mental ill-health?

Consensus and divergence of athlete and coach opinion regarding barriers to elite athletes accessing support for mental ill-health can be seen in Table 6.

Table 6: Consensus reached by expert groups in response to barriers to elite athletes accessing support for mental ill-health

	Athletes	Coaches
Mental ill-health is not openly talked about among elite athletes	High consensus agreement (100%, n= 18)	N/A
There is little knowledge about mental ill-health amongst elite athletes	Medium consensus agreement (66.70%; n= 12)	N/A
There may be a culture within some sport whereby the priority of elite athletes' well-being is overridden by the drive for corporate profit.	Medium consensus agreement (61.1%; n= 11)	N/A
There is little support for elite athletes who experience mental ill-health	Medium consensus agreement (77.7%, n= 13)	N/A
The support available to elite athletes experiencing mental ill-health may depend on the level of funding the athlete receives	High consensus agreement (83.4%, n= 15)	Medium consensus agreement (71.5%, n= 10)
Currently there is no support available which is specific to elite athletes	N/A	Low consensus agreement (57%, n= 8)
Note: Not applicable (N/A) has been used where the statement was not used in the expert groups' Delphi questionnaire due to it not being generated from the previous round.		

The barriers expert groups ranked as the top three largest challenges to elite athletes experiencing mental ill-health from accessing support are displayed in Table 7.

Table 7: Most challenging barriers to elite athletes experiencing mental ill-health accessing support as ranked by athletes and coaches

Athletes	Coaches
<ol style="list-style-type: none"> 1. Not wishing to admit to experiencing mental ill-health due to stigma attached to it 2. Not wanting others to know they are experiencing mental ill-health 3. Fearing it is a sign of weakness to experience mental ill-health 	<ol style="list-style-type: none"> 1. The stigma surrounding mental ill-health 2. Elite athletes' lack of knowledge about mental ill-health 3. Elite athletes finding it difficult to admit they are experiencing mental ill-health

How do athletes and coaches believe elite athletes experiencing mental ill-health would be best supported?

The most helpful ways and most appropriate professionals to support elite athletes experiencing mental ill-health as ranked by expert groups are displayed in Table 8.

Table 8: Most helpful ways and most appropriate professionals to support elite athletes experiencing mental ill-health as ranked by athletes and coaches

	Athletes	Coaches
Support	<ol style="list-style-type: none"> 1. Incorporating psychologists into elite athletes' support networks 2. Early intervention to minimise the long term impact of mental ill-health 3. Athletes who have experienced mental ill-health coming forward to talk about how they have managed this 	<ol style="list-style-type: none"> 1. Increased knowledge of mental ill-health amongst coaches 2. Athlete mentors to support elite athletes 3. Athletes discussing their own experiences of managing mental ill-health
Professional	<ol style="list-style-type: none"> 1. Sports psychologists 2. Clinical psychologists 3. Sports coaches 	<ol style="list-style-type: none"> 1. Sport psychologist 2. Clinical psychologist 3. Counsellor

What role(s) do athletes and coaches perceive coaches play (or could play) in working with elite athletes with mental ill-health?

Athletes' and coaches' rankings of the most appropriate roles coaches play (or could play) in supporting elite athletes experiencing mental ill-health are presented in Table 9.

Table 9: Most appropriate ways coaches do (or could) support elite athletes experiencing mental ill-health as ranked by athletes and coaches

Athletes	Coaches
<ol style="list-style-type: none"> 1. To be approachable and communicate openly with elite athletes 2. To recognise the signs and symptoms of mental ill-health in an elite athlete 3. To direct the elite athlete with mental ill-health to appropriate support 	<ol style="list-style-type: none"> 1. To be someone the elite athlete feels they can talk to honestly and in confidence 2. To take a holistic approach to elite athlete development 3. To recognise the signs and symptoms of mental ill-health in elite athletes

Factors raised in the initial Delphi round which may prevent coaches from supporting elite athletes with mental ill-health were not fully supported by either group in the second round.

A medium level (77.8%, n= 14) of consensus was reached by athletes and a low level (64.2%, n= 9) of consensus was reached by coaches in agreement that resources may prevent coaches supporting elite athletes. Divergence in opinion resulted in no consensus being reached by either group around coaches' own motives preventing them from supporting elite athletes with mental ill-health.

Delphi round two summary of results and development of the third Delphi round questionnaire.

Findings of note from this round include the medium level of consensus reached by athletes agreeing that elite athletes are more likely than the general population to experience mental ill-health due to being under a high level of pressure, whereas no consensus was reached within the coach group on this matter. However, both groups agreed that the most significant factor contributing to the development of mental ill-health is the pressure elite athletes place on themselves and a low level of consensus was reached within the coach group that obsessive and compulsive tendencies amongst elite athletes may contribute to their success. Through the third round questionnaire (see appendices L and M), the researcher was interested in the level of consensus or divergence of opinion between and within groups on which common mental disorder elite athletes may be most likely to develop and whether obsessive compulsive tendencies are over represented in this population.

Given that both expert groups ranked sport psychologists as the most appropriate professional to support elite athletes experiencing mental ill-health, followed by clinical psychologists, the researcher was interested in establishing the expert groups' understanding of these professions' roles and how they believed they would best support an elite athlete experiencing mental ill-health.

Both athletes and coaches ranked the stigma of mental ill-health as the biggest challenge to elite athletes seeking support and suggested athletes coming forward to discuss their experiences of mental ill-health as a helpful way of supporting elite athletes. These points led

the researcher to question how the expert groups felt stigma could be reduced in sporting communities.

Both groups ranked being able to recognise the signs and symptoms of mental ill-health amongst the most appropriate roles coaches play in supporting elite athletes with mental ill-health. However athletes ranked coaches as one of the most appropriate professionals to support elite athletes with mental ill-health, whilst coaches did not suggest their support was appropriate in the initial round. Also of note is that athletes reached a medium level of agreement, whereas coaches only reached a low level of agreement, that coaches' resources may prevent them from supporting elite athletes with mental ill-health. However, there was divergence in opinion within both groups around whether coaches' own motives may prevent them from supporting elite athletes and no consensus was reached by either group. Hence in the third Delphi round specific questions were formulated to enquire:

- 1) How confident each group felt that coaches could recognise the signs and symptoms of mental ill-health amongst elite athletes
- 2) What resources might coaches need to support elite athletes experiencing mental ill-health
- 3) How coaches own motives may stop them from supporting elite athletes.

Divergence in opinion relating to elite athletes being less likely than the general population to experience mental ill-health due to sport being beneficial to elite athletes' mental well-being and coaches' own motives preventing them from supporting elite athletes with mental ill-health, were highlighted by the second round Delphi. The researcher was interested in why

these questions caused such divergence in opinion within and between expert groups, therefore the final Delphi round questionnaire included visual diagrams of both groups' responses to these questions and asked participants to speculate as to the reason of this diversity.

Delphi Round Three

Delphi round three data analysis.

As with the previous rounds quantitative responses to the third Delphi round questionnaire were analysed using descriptive statistics to give categorical percentages. Qualitative information was analysed using thematic analysis to generate significant themes from each group. Participants were asked to rate a typical elite athlete and a typical member of the general population on a 10 point scale with 1 corresponding to "No obsessional thoughts or ritualised/ compulsive behaviours" and 10 corresponding to "Time consuming and/or distressing obsessional thoughts and ritualised/ compulsive behaviours suggestive of an Obsessive Compulsive Disorder (OCD)". Median scores and interquartile ranges were calculated based on participants' ratings. The level of consensus based on expert groups' responses to a questions requiring them to rank items was established as in previous rounds.

Delphi round three results.

Which common mental disorder do athletes and coaches perceive to be the most prevalent amongst elite athletes?

The top five common mental disorders which expert groups felt would be most prevalent amongst the elite athlete population are presented in Table 10.

Table 10: Most prevalent common mental disorders amongst elite athletes as ranked by athletes and coaches

Athletes	Coaches
<ol style="list-style-type: none"> 1. Anxiety 2. OCD 3. Mixed anxiety and depression 4. Eating disorders 5. Depression 	<ol style="list-style-type: none"> 1. Anxiety 2. Mixed anxiety and depression 3. Panic disorder 4. OCD 5. Depression

What are athletes and coaches beliefs regarding obsessive compulsive tendencies and perfectionism amongst the elite athletes?

Groups' ratings of obsessive compulsive tendencies on a ten point scale displayed by a typical elite athlete and typical member of the general population are presented in Figure 2.

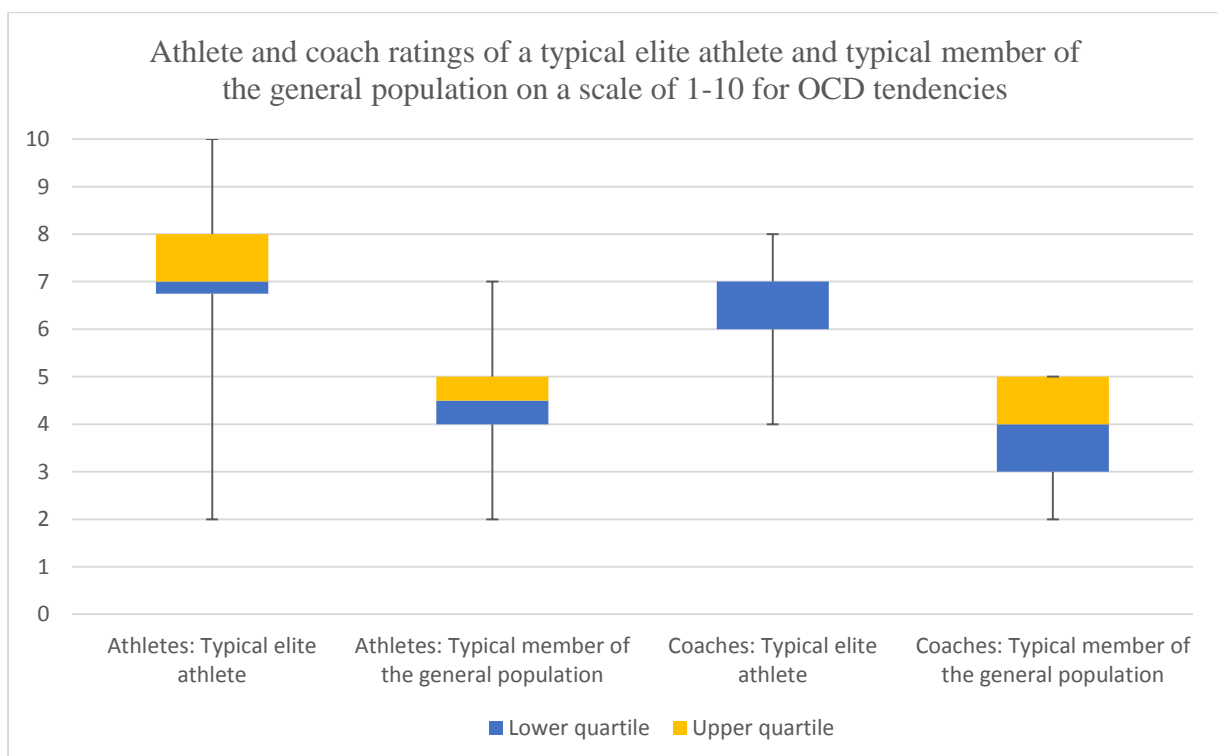


Figure 2: Box and whisker chart displaying athletes' and coaches' ratings of a typical elite athlete and typical member of the general population on a 10 point scale of OCD tendencies including minimum, maximum, lower quartile and upper quartiles values

Within both expert groups quite contradictory themes were produced regarding the helpfulness of perfectionism within elite athletes (Table 11).

Table 11: Significant themes and quotes from athletes and coaches related to the helpfulness of perfectionism amongst elite athletes

Athletes	Coaches	Athletes and coaches
The helpfulness of perfectionism may depend on a number of factors (n= 6) e.g. <i>"Being a perfectionist about some things will help, about other things may hinder"</i> (Athlete 101)	Perfectionism can be positive and negative (n= 2) e.g. <i>"It's a complex situation with pros and cons on both sides."</i> (Coach 127)	Perfectionism is a difficult concept to define and measure (Athlete n= 3, Coach n= 4) e.g. <i>"Very, very difficult trait to quantify and measure"</i> (Coach 133)
Perfectionism in elite athletes can be unhelpful (n= 10) e.g. <i>"if taken to the extreme can also be a distraction causing an athlete to worry about things"</i> (Athlete 103)		Perfectionism in elite athletes can be helpful (Athlete n= 10, Coach n= 4) e.g. <i>"If you strive for perfection then you will achieve excellence"</i> (Coach 136)
		Perfectionism can be helpful or unhelpful depending on the individual (Athlete n= 3, Coach n= 5) e.g. <i>"I think it can be both dependent on the athlete and the situation."</i> (Athlete 121)

How do athletes and coaches believe stigma of mental ill-health within sporting communities could be reduced?

Athletes and coaches agreed on several ways to reduce stigma surrounding mental ill-health amongst sporting communities including: athletes coming forward to discuss their experiences of mental ill-health, more open discussion and more awareness around mental ill-health. Coaches also suggested education for elite athletes and coaches about mental ill-health (n= 4).

Which professional do athletes and coaches believe would best support elite athletes experiencing mental ill-health?

In round two, both expert groups rated sport psychologists and clinical psychologists as the most appropriate professionals to support elite athletes experiencing mental ill-health. In the third round expert groups were asked under what circumstances support from one professional would be more appropriate than the other. Significant themes generated by both groups were that sport psychologists would have a better understanding of the experiences of an elite athlete than clinical psychologists, however, they cannot support elite athletes to address mental ill-health. Somewhat contradictorily, athletes also suggested that support from sport psychologists would be more appropriate than clinical psychologists if the issues related to sport (n= 4). Coaches also suggested sport psychologists would be more appropriate than clinical psychologists in supporting elite athletes experiencing mental ill-health with their sport performance (n= 3).

Both groups agreed that because clinical psychologists specialise in mental health they would be more appropriate in supporting elite athletes experiencing mental ill-health than sport psychologists. They also agreed that clinical psychology support would be more appropriate if the mental health issue impacted on the elite athlete's life outside of sport and that they would have a different approach to supporting the elite athlete than sport psychologists.

What are athletes and coaches beliefs about coaches' *capacity to support elite athletes with mental ill-health*?

When asked how confident athletes felt that coaches would be able to recognise the signs and symptoms of mental ill-health amongst elite athletes, and how confident coaches themselves felt in doing this, divergence in opinion between group members meant that neither group reached consensus on this matter.

Significant themes generated from athletes' and coaches' responses relating to what could be done to provide coaches with the resources to support elite athletes with mental ill-health are presented in Table 12.

Table 12: Significant themes related to providing coaches with the resources to support elite athletes with mental ill-health

Athletes	Coaches	Athletes and coaches
Accessible information about mental ill-health (n= 3)	Knowledge of mental ill-health included in coaching qualifications (n= 3)	Training and education for coaches around mental ill-health (Athlete n= 12, Coach n= 8)

Increased funding (n= 4)

Significant themes generated from groups' responses to questions related to coaches' own motives preventing them from supporting elite athletes' with mental ill-health are presented in Table 13.

Table 13: Significant themes related to coaches' own motives preventing them from supporting elite athletes' with mental ill-health

Athletes	Coaches	Athletes and coaches
A coach may not support an elite athlete with mental ill-health to protect their own ego (n= 5)	Coaches only interested in supporting elite athletes who are doing well and don't have mental ill-health (n= 4)	Coaches are under pressure to produce results (Athlete n= 7, Coach n= 3)
Coaches feeling it is more effort to support an elite athlete with mental ill-health (n= 3)		Coaches not supporting an elite athlete with mental ill-health if they do not feel they know how (Athlete n= 2, Coach n= 4)
		Coaches not addressing mental ill-health issues if they feel it may affect the elite athlete's performance (Athlete n= 3, Coach n= 5)

What are *athletes' and coaches' understandings of divergence in group opinion relating to mental ill-health amongst elite athletes and coaches' motives to offer support?*

When asked to speculate about the cause of diverging opinions between and within groups about elite athletes being less likely than the general population to experience mental ill-health due to sport being beneficial to elite athletes' mental well-being, several significant themes emerged from both expert groups (see Table 14).

Table 14: Significant themes related to diverging opinions about elite athletes being less likely than the general population to experience mental ill-health due to sport being beneficial to elite athletes' mental well-being

Athletes	Coaches	Athletes and coaches
Elite athletes may deny the existence of mental ill-health (n= 3)	Elite athletes and coaches may have different experiences around mental ill-health (n= 4)	Coaches may be more aware of mental ill-health amongst elite athletes than athletes (Athlete n= 15, Coach n= 2)
Coaches may not be aware of mental ill-health amongst elite athletes (n= 3)		Athletes may not have an awareness of mental ill-health amongst elite athletes (Athlete n= 6, Coach n= 6)
Athletes may have personal experience of exercise's impact on mental health (n= 6)		

When asked to speculate about the cause of diverging opinions between and within groups about coaches' personal motives preventing them from supporting elite athletes with mental ill-health, several significant themes were generated from both expert groups (see Table 15).

Table 15: Significant themes related to diverging opinions about coaches' personal motives preventing them from supporting elite athletes with mental ill-health

Athletes	Coaches	Athletes and coaches
Coaches may be denying that their own motives prevent them from supporting elite athletes with mental ill-health to protect themselves (n= 6)	Some coaches do put their personal motives over the well-being of the elite athlete (n= 4)	Athletes and coaches have different perceptions of whether coaches' motives prevent them from supporting elite athletes with mental ill-health (Athlete n= 2, Coach n= 3)
Coaches may not be aware of mental ill-health amongst elite athletes which prevents them from supporting them (n= 3)		Some athletes may believe that coaches' own motives prevent them from supporting elite athletes with mental ill-health (Athlete n= 5, Coach n= 5)

Delphi round three summary of results.

Both groups agreed that putting pressure on themselves is the most significant factor contributing to the development of mental ill-health amongst elite athletes. They also ranked anxiety and OCD as two of the most prevalent mental disorders amongst this population and felt that elite athletes experience higher levels of OCD tendencies than the general population. Linked to this, both groups expressed ambivalence around whether perfectionism amongst elite athletes is helpful, which reflects the literature.

Both groups produced similar themes related to reducing stigma in this context which centred on more openness and awareness of mental ill-health. Athletes and coaches agreed that sport psychologists would have a better understanding of the experiences of an elite athlete than clinical psychologists, but would not be able to support elite athletes experiencing mental ill-health. They also agreed that clinical psychologists' specialist knowledge would be more appropriate than sport psychologists' in supporting elite athletes experiencing mental ill-health and that they would be more appropriate if the issue impacted on the elite athlete's life outside of sport. However, athletes suggested that sport psychology support would be more appropriate if the issues related to sport.

Expert groups suggested that providing coaches with more education and information about mental ill-health would help them support elite athletes with mental ill-health. When considering reasons why some coaches' own motives may prevent them from supporting elite athletes' with mental ill-health both groups suggested that; coaches are under pressure to produce results, that they may not know how to support elite athletes with mental ill-health or are concerned that addressing issues would affect the elite athlete's performance. Differences between groups include athletes believing coaches may not offer support because they feel it is more effort or to protect their egos and coaches believing that they may only be interested in supporting successful elite athletes.

When considering the cause of diverging opinions around benefits of sport as a protective factor against elite athletes developing mental ill-health both expert groups appeared to agree that coaches may have a greater awareness of mental ill-health amongst elite athletes than

athletes do. However groups' responses differed in that athletes felt they may deny mental ill-health, coaches may be unaware of mental ill-health amongst elite athletes and that athletes may have experience of exercise's impact on mental health. Whilst coaches believed expert groups may have different experiences around mental ill-health.

Similarly when speculating on the diversity of opinions around coaches' motives preventing them from supporting elite athletes with mental ill-health, both groups agreed that athletes may believe coaches' own motives prevent them from supporting elite athletes. However groups disagreed in that athletes felt that coaches may deny their own motives prevent them from offering support and that they may not be aware of mental ill-health amongst elite athletes, whereas coaches stated that some coaches do put their personal motives over the well-being of elite athletes.

Discussion

A three round Delphi methodology was used to investigate elite athletes' and coaches perceptions of 1) the prevalence of mental ill-health amongst elite athletes 2) factors which contribute to elite athletes developing mental ill-health, 3) the barriers to elite athletes accessing support 4) how elite athletes should be supported and 5) the role coaches play in working with elite athletes with mental ill-health. The results are discussed in relation to these questions, relevant research and existing theory. Clinical implications, limitations and areas for further research are discussed.

Athletes and coaches had different perspectives about the prevalence of mental ill-health amongst elite athletes, with athletes agreeing that there is a higher prevalence than amongst the general population and coaches failing to reach consensus. Athletes' beliefs are supported by the findings of Hammond et al. (2013) and Krentz and Warschburger (2011) who reported higher prevalence rates of mental ill-health amongst elite athletes compared to control groups or rates amongst the general population.

Athletes reported having personally experienced mental ill-health at a higher rate than coaches' reported having witnessed it amongst athletes. This finding may reflect the minimisation of these issues by coaches as discussed by Nowicka et al. (2013). However, contrary to this, both groups suggested that coaches may have a greater awareness of mental ill-health amongst elite athletes than athletes themselves. This is somewhat at odds to the findings of Vaughan et al. (2004) that only 27% of athletic trainers believed they could identify an athlete with an eating disorder, arguably the most visible mental disorder, suggesting a higher likelihood of under-reporting of these issues by coaches.

Both groups agreed that the most significant factor contributing to the development of mental ill-health amongst elite athletes is the pressure they place upon themselves. They also rated elite athletes as having higher OCD tendencies than the general population and ranked anxiety and OCD two of the most prevalent mental disorders amongst elite athletes. Although there is a gap in the literature around anxiety disorders, including OCD, amongst elite athletes, there is considerable research around perfectionism amongst athletes being both

adaptive and maladaptive (Stoeber et al., 2008; Flett & Hewitt, 2005) as well as research regarding athletes' state performance anxiety (Jones, 1995).

Athlete and coach responses reflect the ambivalence around the helpfulness of perfectionistic tendencies. It is plausible that the lack of research around OCD amongst elite athletes is due to a culture which does not recognise these behaviours as problematic. Similar to the suggestion by Tan et al. (2012) that within an elite sports environment the pursuit of thinness may be normalised or viewed positively, OCD and perfectionistic tendencies amongst athletes may not be recognised as maladaptive due to the advantages they hold towards athletic achievement. However, diathesis-stress models of psychopathology suggest that individual psychological factors, such perfectionistic and OCD tendencies, may interact with stress experienced to produce mental ill-health (Ingram & Luxton, 2005). Of particular relevance to this population may be issues related exercise addiction, which is thought to be more prevalent amongst individuals with perfectionistic tendencies (Stoliaroff, 2003). Although exercise addiction is not currently recognised by either the DSM-IV or ICD-10, it is thought to relate to a craving for endorphins released in response to moderate-to-intense exercise, with individuals compelled to exercise regardless of physical injury, personal inconvenience or disruption in other areas of their life (Landolfi, 2013).

Athletes and coaches agreed that stigma surrounding mental ill-health is the biggest barrier to athletes seeking support, consistent with the findings of Gulliver, Griffiths and Christensen (2012). Suggestions on how to reduce this included more open discussion and awareness about the issue. Both groups agreed that the current support is limited and not specific to elite athletes experiencing mental ill-health. Athletes and coaches felt that support from sport

psychologists and clinical psychologists would be most appropriate, however, both groups also suggested that sport psychologists would not be able to support elite athletes experiencing mental ill-health. The depiction of the professionals' roles betray some confusion about the extent of competencies of each, which is echoed in the different roles of sport psychologists in different countries. For example the BPS (2014) state that sport and exercise psychologists should have a critical understanding of processes which "may include: mental health (for example, eating disorder, addiction, depression, exercise dependence)" (p.20), whereas, the American Psychological Association (2015) state that sport psychologists use counselling and clinical interventions related to a variety of mental disorders including eating disorders, depression, substance abuse, grief and loss.

Both groups recognised the important role coaches play in supporting elite athletes' experiencing mental ill-health and felt that being able to recognise the signs and symptoms of mental ill-health is amongst their most appropriate roles. Both groups suggested coaches require more education and information around mental health to provide them with the resources to offer support. These findings support those of Mazzer and Rickwood (2015) who investigated coaches' perceived role breadth and ability to support young people's mental health.

Divergence in opinion was found around coaches' own motives preventing them from supporting athletes with mental ill-health. However, both groups agreed being under pressure to produce results, being concerned that addressing mental ill-health would effect performance or not knowing how to support elite athletes with mental ill-health may prevent

coaches from offering support. These findings reflect existing research which suggests that athlete performance is one of many stressors experienced by elite coaches (Thelwell, Weston, Greenlees, & Hutchings, 2008) and that coaches' express concern that their support may negatively impact an athlete experiencing mental ill-health (Mazzer & Rickwood, 2015).

Clinical Implications

Findings suggest a desire by athletes and coaches for more knowledge and understanding of mental ill-health within sporting communities, as well as more open discussion about these issues to reduce associated stigma. Training courses, developed in collaboration with mental health services, have been used with coaches of young, non-elite athletes (Bapat et al., 2009). These courses increase coaches' knowledge of mental disorders, their confidence in recognising and helping athletes experiencing these issues and reduce stigma around mental ill-health (Bapat et al., 2009; Pierce et al., 2010).

This issue is only recently being addressed at an elite level however. In 2014 a report by the mental health charity MIND highlighted the pressures faced by elite athletes. The report recommended the need for coaches to receive education about the importance of dealing with mental health issues early and understanding the value of mental health and wellbeing, as well as sporting clubs proactively supporting mental health and wellbeing in athletes (MIND, 2014). Charities including MIND and RETHINK, in collaboration with sporting organisations including the Football Association, are now offering mental health awareness training to coaches from grassroots to elite level. However, these appear to be aimed at reducing stigma surrounding mental health and encouraging those with mental ill-health to

get involved in sport, rather than training coaches about the unique pressures faced by elite athletes and how to recognise or manage these issues.

Findings highlighted some uncertainty amongst athletes and coaches around the best placed psychological professional to support elite athletes experiencing mental ill-health. It would appear that many athletes and coaches believe sport psychologists in the UK, without additional specialist training, have the expertise to treat mental ill-health amongst athletes.

Some clarity on the role and professional competence of sport psychologists in the UK may be required to ensure athletes receive the most appropriate support for these issues.

Additionally, findings which suggest that sport psychologists have a better understanding of the experiences of the elite athlete, have implications for the role clinical psychologists. It is important clinical psychologists working with elite athletes have a well-informed understanding of their unique situation in order to formulate the complexity of their difficulties. Opportunities for clinical psychologists to work collaboratively with sport psychologists and coaches, to share their knowledge and understanding of the issues, in order to provide the most appropriate psychological support for athletes should be taken.

Strengths and Limitations

Utilising a Delphi methodology held several advantages in allowing group communication and generation of ideas around a complex problem (Linstone & Turoff, 2002) whilst bypassing methodological issues such as time, expensive and travel that would be incurred through other group research methods. Quality assurance checks were made at each round to ensure that particularly strong views expressed by any one participant did not skew the

findings, although this was not found. The feedback mechanism inherent in the Delphi method can also be interesting and informative for participants (McKenna, 1994), as demonstrated by athletes' and coaches' feedback that they learnt a great deal about mental health through participating. However, the Delphi method is generally regarded as a method of structuring communication as opposed to providing answers, due to questions regarding its validity, and results are considered in this light (Jones & Hunter, 1995).

This investigation included a range of participants from technical, ball game and endurance sports, however, the sample contained no participants from aesthetic sports. The literature suggests that athletes competing in aesthetic sports, such as figure skating, gymnastics or synchronised swimming, have an increased risk of eating disorders compared to the general population (Krentz & Warschburger, 2011). Had participants from aesthetic sports been included in this investigation, their opinions potentially may have influenced the current findings. Participants, who were self-selecting, may have been motivated to take part in this investigation by pre-existing interests or experiences with mental ill-health. Therefore their opinions may not be as representative of the athlete and coach population as those expected by a wholly random sample.

Whilst the range of ages of both athlete and coach participants' can be viewed as a strength of this investigation, adding to its generalisability, it is important to note the possible impact of age related differences on participants' responses. Age has been shown to have an impact on individual's attitudes towards mental ill-health, with people showing an increasing understanding of mental illness as they age (MIND, 2013). This suggests that had the athlete

and coach samples been controlled for age, this may have impacted on the findings of this investigation.

Further Research

Participants suggested higher rates of OCD tendencies amongst elite athletes than the general population and that these may add to athletes' success. Further research might investigate the presence of these characteristics amongst elite athletes or the understanding of these within the context of the sporting environment.

The investigation has highlighted uncertainty amongst sporting communities of the role of the sport psychologist working with athletes experiencing mental ill-health. Further research could investigate sport psychologists' views on their role and how this overlaps with that of the mental health professional.

Further research into how the stigma surrounding mental ill-health might be managed within sporting communities may allow elite athletes to seek support for these difficulties without fear of it affecting their career prospects.

Conclusion

Research suggests that elite athletes are just as likely as the general population, if not more, to develop mental ill-health. This investigation, aimed to discover elite athletes' and coaches' perceptions of this issue, found differences in beliefs about its prevalence. However, it

would appear that internal attributes, including pressure they put on themselves and possibly higher rates of OCD tendencies, may contribute to the development of mental ill-health amongst elite athletes. Coaches have an important role in supporting these athletes, however, further training and information is required, as is more open communication in order to reduce the stigma surrounding mental ill-health. Findings have implications for sport and clinical psychologists in defining their roles in supporting elite athletes with mental ill-health.

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Section C: Appendix of Supporting Material

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Appendix A: Data Extraction Form for Reviewing Questionnaire and Survey Data**Articles**

Article title
Author(s)
Year of publication
Journal
What was the research question? Was the questionnaire appropriate for answering it?
Was the questionnaire used in the study valid and reliable?
What did the questionnaire look like, and was this appropriate for the target population?
Were the instructions clear?
Was the questionnaire adequately piloted?
What was the sample? (random, stratified, snowball?)
How was the questionnaire administered? Was the response rate adequate?
How were the data analysed?
What were the main results?
What are the key conclusions?

Appendix B: Data Extraction Form for Reviewing Review Papers

Article title
Author(s)
Year of publication
Journal
Does the title identify the report as a systematic review and/or meta-analysis?
Does the introduction include a clear rational for the review?
What is the specific clinical question with reference to participants, interventions, comparisons, outcomes, and study design?
Does the review indicate whether a review protocol exists?
Do the authors specify an eligibility criteria and give a rational?
Was a thorough search of appropriate database(s) and other potentially important sources done?
Do they state the process of selecting studies?
Was methodological quality assessed and trials weighted accordingly?
Does the review present the results of individual studies?
How sensitive are the results of the review? Are they robust?
Have numerical results been interpreted with regard to the broader aspects of the problem?
Have the authors specified any assessment of risk of bias that may affect cumulative evidence?

Do authors summarise findings including the strength of evidence for each main outcome?
Are the limitations included at the study, outcome and review level?
Provide general interpretation of results in context of other evidence and implications for future research?
State sources of funding for the systematic review and other support?

Appendix C: Letter of Approval from University Ethics Committee

This has been removed from the electronic copy

Appendix D: Participant Information Sheet

PARTICIPANT INFORMATION SHEET

PROJECT TITLE: An investigation of athletes' and coaches' perceptions of mental ill-health in elite athletes.

My name is Isobelle Biggin, I am a trainee clinical psychologist studying at Canterbury Christ Church University. My project, is being sponsored by the Salomons Centre of Applied Psychology, within the Department of Psychology, Politics and Sociology, in the Faculty of Social and Applied Sciences. It is supervised by Professor Jan Burns and Dr Mark Uphill.

PROJECT SUMMARY

This project is aiming to investigate athletes' and coaches' perceptions of mental ill-health in UK elite athletes, how issues arise, barriers to accessing assistance and how coaches' and athletes' perceptions compare to each other. ***The project does not aim to determine the mental health of participants, but rather to gain their views on the topic.*** I would very much appreciate your participation in this project.

WHAT WILL I BE ASKED TO DO?

- 1) If you choose to participate you will be asked to complete and email back a consent form stating that you have read this information sheet and agree to participate in the research project.
- 2) You will then be asked to anonymously complete 3 online surveys over a 6 month period about your opinions about mental ill-health in elite athletes and any professional/ personal experiences of mental-ill health. Each survey should take less than 30 minutes to complete and consist of some short answer questions and some questions aimed at encouraging you to elaborate on your responses as much as you feel is necessary. Please feel free to

include any and all information that you feel is appropriate. **Please do not include any identifying information about yourself or others or any information that you do not feel comfortable sharing with others.**

For further details of the research procedure please see Appendix A of this document.

WHAT WILL IT ACHIEVE?

This project aims to inform the practice of those working with elite athletes through the development of guidance about the identification and management mental ill-health. Your participation has the potential to influence future practise to reduce distress, improve wellbeing and prolong athletic careers.

TO PARTICIPATE IN THIS RESEARCH YOU MUST BE:

- over 18 years old

AND EITHER

- an UK athlete who has competed at an international level in the past two years

OR

- a coach working in the UK, with a level 2 coaching qualification or above and coached an UK athlete competing at an international level in the past 2 years.

FEEDBACK

Following completion of the project you will be emailed a brief outline of the results of the investigation and asked to comment on your experience of taking part in this research project.

It is hoped that this research will be published in a public forum following completion; details of this will be emailed to you on publication.

YOUR RIGHTS & CONFIDENTIALITY

If you choose to participate in the project you will be given an individual participant code which will allow you to participate anonymously, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. Your anonymous responses to the online surveys will be shared with other research participants and may be included in the write up of this investigation and future publications, however your name and identity will not be attached to this information at any time. Participation is confidential, however information may be shared where there appears to be sufficient evidence to raise serious concern about:

- 1) Your safety
- 2) The safety of others who may be endangered by your behaviour
- 3) The health, wellbeing or safety of children or vulnerable adults

You have the right to decline to answer any questions included in this research.

Prior to the completion of this investigation, you may decide to stop being a part of the research study at any time without explanation and request that any data you have supplied to that point be withdrawn/destroyed.

You have the right to have your questions about the procedures answered (unless answering these questions would interfere with the study's outcome).

BENEFITS AND RISKS

Due to the sensitive nature of the topic of mental health, there is a possibility that the survey may cause some minor distress. However, you are asked to only disclose information that you feel comfortable sharing with others and participation is voluntary.

If you have any concerns about your own or others' mental health please contact the below resources for help and support, or the researcher for further resources or specific help.

www.nhs.uk/mentalhealth

www.mind.org.uk

www.sane.org.uk

FOR FURTHER INFORMATION

If you have any questions as a result of reading this information sheet, or at any time during the investigation, please contact me on ibigginresearch@gmail.com or 07530195926

If you would like to make a complaint at any time during the project please contact Paul Camic, Research Director (Salomons) on paul.camic@canterbury.ac.uk

APPENDIX A

PROCEDURE IN DETAIL

Step 1: If you choose to participate in the project you will be given an individual participant code which will allow you to participate anonymously, and allocated to either the “athlete” or “coach” virtual group depending on your stated profession. It is hoped that there will be around 25 participants in each virtual group. You will be sent an electronic link to an online survey which we ask you complete at your convenience within 2 weeks of receiving the link. This survey should take no more than 30 minutes to complete. Your anonymous responses to the online survey will be

shared with other research participants; however your name and identity will not be attached to this information at any time.

Step 2: On receipt of each groups' completed surveys, data will be analysed and used to produce a second survey for your virtual group including key ideas that emerged. You will be asked to rate your agreement with these ideas, rank them in order of importance and give a brief explanation for your decisions that you are happy for other participants to read. Your anonymous responses to the online surveys will be shared with other research participants; however your name and identity will not be attached to this information at any time. The electronic link to this survey will be sent to you via email for you to complete at your leisure within two weeks. This survey will mainly include short answer and multiple choice questions and therefore should take less time to complete than the initial survey, also taking no more than 30 minutes to complete.

Step 3: On receipt each virtual groups completed second surveys, data will be analysed again and used to produce a third survey. This survey will include information about how other participants within your virtual group ranked ideas and their explanations, it will also include information on how the other virtual group ranked ideas, their explanations and the extent to which the two groups' rankings are in agreement with each other. You will be asked to write a response to this information, including your thoughts about the level of agreement between the athlete and coach virtual groups. Your anonymous responses to the online surveys will be shared with other research participants; however your name and identity will not be attached to this information at any time. The electronic link to this survey will

be sent to you via email for you to complete at your leisure within two weeks. This survey should also take no more than 30 minutes to complete.

It is hoped that the three surveys will be completed over a 6 month period.

Appendix E: Participant Consent Form**Canterbury Christchurch University, Faculty of Social and Applied Sciences,
Clinical Psychology Doctoral Programme Major Research Project**

Participant Identification Number:

CONSENT FORM

Title of Project: An investigation of athletes' and coaches' perceptions of mental ill-health in elite athletes.

Name of Researcher: Isobelle Biggin (Under the supervision of Professor Jan Burns and Dr Mark Uphill)

Please initial all boxes

1. I confirm that I have read and understand the information sheet dated 02/10/13 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time prior to the completion of the investigation without giving any reason, without my legal rights being affected. ☐
3. I understand that the information that I share in this study may be looked at by individuals from Canterbury Christ Church University or regulatory authorities, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my responses to this research. ☐
4. I understand that although my responses to the research will be anonymous, the researcher may quote me directly in their research. However, my name and identifying information will not be attached to this information. ☐
5. I am aware that, although my responses to the research will be anonymous, if the researcher has concerns about my safety or the safety of others they will be obliged to share this information. ☐
6. I am aware of the potential risks of being involved in this study. ☐
7. I agree to take part in the above study. ☐

Name of Participant

Date

Appendix F: Example of Theme Development: Barriers to Elite Athletes Accessing Support for Mental Ill-Health

Theme	Subtheme	Initial coding relating to subtheme	Example quote	Source
Barriers to elite athletes accessing support for mental ill-health	Admitting to mental ill-health seen as a sign of weakness	Fear of looking weak	“Barriers include fear of looking weak”	Athlete
		The label of being mentally weak	“Fear of being labelled mentally weak”	Athlete
		Appearing weak	“Many will probably see this as a weakness and don't want to admit they are stressed or depressed or not coping.”	Athlete
		Appear weak to others	“Not wanting to appear weak in front of a coach or squad”	Athlete
		Mental ill-health seen as a weakness	“can be seen as a weakness”	Athlete
		Macho culture leads to not wanting to show weakness such as mental ill-health	“I have seen a macho mentality in my sport which could be lead as an unwillingness to show perceived weakness.”	Coach
		Mental ill-health seen as a weakness in self or by others	“Perception of weakness - either internally or worried how it will be perceived by others.”	Coach
		Perceive mental ill-health as a failure	“The athlete may consider it a failure to admit to experiencing mental illness,”	Coach
	Stigma associated with mental ill-health	Stigma of mental illness label	“The stigma of the label it may effect your sport/training/competition”	Athlete

	Shame associated with mental ill-health	“Shame or inability to admit there is a problem on the athlete’s part.”	Athlete
	Stigma of mental ill-health at an individual and team level	“The stigma of mental health problems does not help. Both on the level of the individual and the support framework surrounding them. The individual does not want to be depressed etc, so admitting they need help is often tough for proud athletes. A similar situation exists with the coach.”	Athlete
	Stigma associated with mental ill-health	“General stigmas associated with mental ill health.”	Athlete
	Taboo surrounding mental ill-health	“Taboo subject”	Athlete
	Negative perceptions of mental ill-health	“negative player/coach/public perception of mental ill-health”	Coach
	Stigma associated with mental ill-health	“The stigma of mental illness”	Coach
	Stigma of mental ill-health causes athletes’ keep mental ill-health a secret	“Stigma - not wanting others to know, keeping it secret”	Coach
Athletes’ lack of knowledge and understanding about mental ill-health	Understanding	“lack of understanding”	Athlete
	Not knowing what support is available	“Knowing what is available”	Athlete

	Most athletes don't know how to access support	"I know what can be accessed and how. For most this is a complete unknown."	Athlete
	Lack of understanding about mental ill-health	"lack of understanding and open forum for discussion"	Athlete
	Athletes don't know about support	"players ignorance"	Coach
	Athletes lack knowledge of signs of mental ill-health	"Knowing they are suffering from mental illness - not understanding what it is and what the symptoms are."	Coach
	Athletes lack of knowledge of how to deal with mental ill-health	"Not knowing what the options are to deal with mental illness - who do they go to"	Coach
	Athlete lack of awareness of mental ill-health	"lack of awareness,"	Coach
	Athletes lack knowledge of support available for mental ill-health	"No idea where to turn to."	Coach
	Athletes' Lack of knowledge of mental ill-health	"lack of knowledge of what they are suffering from,"	Coach
Negative consequences preventing athletes seeking support for mental ill-health	Athletes with mental ill-health could lose funding	"be it media or opponents/rivals which could involve losing funding"	Athlete
	Athletes with mental ill-health may not be selected to compete	"For example (and depending on the sport and level of competition), you might not be selected to compete if you have a muscle injury that either	Athlete

		prevents you from performing or requires ongoing treatment and management - similarly, you might not be selected if you require additional mental health treatment.”	
	Athlete with mental ill-health may fear they would lose their position in their team	“particularly for fear of losing their position in teams / squads.”	Athlete
	Athletes with mental ill-health fear they will lose their place in team	“for fear of losing their place/chance to compete”	Athlete
	Athletes may be concerned that mental ill-health would stop them from competing	“Should an athlete's ill-health (mental or otherwise) stop them from competing,”	Athlete
Lack of funding may prevent athletes from seeking support for mental ill-health.	Funding is an issue for athletes seeking support for mental ill-health	“Lack of funding”	Coach
	Lack of funding for mental health support may prevent athletes seeking it.	“Money, not enough support out there possibly.”	Coach
	Lack of funding may prevent athletes seeking support	“money/lack of funding”	Coach
	Lack of funding in sport for mental health services	“lack of funding (sport dependent)”	Coach

Appendix G: List of Sports Coached and Competed in by Participants

Sports competed in at an international level by elite athletes	n	Sports coached at an international level by elite coaches	n
Athletics	1	Athletics	3
Cycling	3	Badminton	1
Duathlon	1	Basketball	5
Race walking	1	Cricket	1
Rugby	1	Cycling	1
Running	2	Lacrosse	2
Long distance	1	Orienteering	1
Cross country	1	Running	1
Swimming	1	Swimming	1
Target shooting	5	Squash	1
Touch rugby	4	Target shooting	2
Triathlon	6	Triathlon	1
Note. Participants were asked to report all responses that applied to them resulting in more sports listed than participants per group.			

Appendix H: Elite Athlete Delphi Round One Questionnaire

Athletes' perceptions of mental ill-health in elite athletes: Survey 1

Welcome

Welcome to the first of three athlete surveys of this research project. This survey aims to investigate athletes' perceptions of mental ill-health in UK elite athletes, how issues arise and barriers to accessing assistance. **The project does not aim to determine the mental health of participants, but rather to gain their views on the topic.**

This project aims to inform the practice of those working with elite athletes through the development of guidance about the identification and management mental ill-health. Your participation has the potential to influence future practise to reduce distress, improve wellbeing and prolong athletic careers. We very much appreciate your participation in this project.

The survey is completed anonymously, can be saved part way through by clicking the **Finish later** button and takes around 30 minutes to complete.

*Please note that once you have completed the survey and clicked on the **CONTINUE** button your answers are submitted and you can not return to review or amend your survey.*

Data Protection

All data collected in this survey will be held anonymously and securely, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. Your anonymous responses to the online surveys will be shared with other research participants and may be included in the write up of this investigation and future publications, however your name and identity will not be attached to this information at any time.

Cookies, personal data stored by your Web browser, are not used in this survey.

Prior to the completion of this investigation, you may decide to stop being a part of the research study at any time without explanation and request that any data you have supplied to that point be withdrawn/destroyed. For further information regarding your rights as a participant in the research project please see the **Participant Information sheet** provided during recruitment or by clicking on this link
<https://www.dropbox.com/s/c6gym6hxhcdz3hj/PARTICIPANT%20INFORMATION%20SHEET.docx>

Survey

This survey is 1 page long and consists of **16 questions**. You may pause and resume this survey at a later time by pressing the **Finish Later** button. Please note that once you have completed the survey and clicked on the **CONTINUE** button your answers are submitted and you can not return to review or amend your survey.

Demographics

Please complete the following demographic fields.

1 Participant code

 More info

Your participant code was emailed to you during recruitment; it is individual to you and will allow you to participate anonymously, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. If you cannot locate your participant code please contact the researcher (lbqglnresearch@gmail.com) and request a reminder be sent to you by email.

2 Gender

☐ Male

☐ Female

3 Age

4 Competed in

5 Sports competed in

6 Years of experience competing at an international level

7 Have you previously coached at an international level?

☐ Yes

☐ No

8 Which of the following identities do you feel apply to you?

☐ Athlete

☐ Coach

☐ Professional (other than athlete or coach)

☐ Parent

☐ Daughter/Son

☐ Husband/Wife/Partner

☐ Carer

☐ Other

8.a If you selected Other, please specify:

Mental ill-health

9 "Mental health problems include a wide range of experiences: some problems may be quite mild or moderate, while others may take on a more severe form, affecting a person's ability to cope with day-to-day living. You may have heard about some of the more commonly discussed problems such as depression, anxiety, self-harm, eating disorders, schizophrenia, psychosis, stress and bi-polar disorder." (MIND website, 2013) Sometimes people suffering from mental ill-health seek the help of a doctor or therapist but many people do not. With this and the above definition in mind please describe any previous experience you have had with mental illness, either personally or professionally, that you feel comfortable disclosing anonymously.

Elite athletes with mental ill-health

10 **Prevalence:** Do you feel that elite athletes are more or less likely to develop mental ill-health than the general population?

☐ More likely

☐ Less likely

☐ Neither more nor less likely

10.a Why do you believe this is?



11 Contributing factors: Research has suggested that for some elite athletes who develop mental ill-health, some factors relating to their role as an elite athlete might have contributed to this. What factors do you feel might contribute to some elite athletes developing mental ill-health? (Please list as many factors as you feel are relevant, including an explanation for your response)



12 Prevention: What do you believe could be done to prevent mental ill-health in elite athletes?



13 Support: What support do you feel is currently available for elite athletes who are experiencing mental ill-health? (Please list and describe the types of support available).

--	--

14 Barriers to support: Research suggests that there might be some barriers to elite athletes experiencing mental ill-health from accessing support, what do you think these barriers might be? (Please list and describe each barrier)

--	--

15 Further support: What do you believe could be done to further support elite athletes with mental ill-health? (Please describe each type of support).

--	--

16 Coaches' role: What role(s) do you perceive coaches play (or could play) in working with elite athletes experiencing mental ill-health? (Please describe each role)

**Thank you**

Thank you for completing this survey.

Once you have answer all 16 questions and are happy with your answers please click the **continue** button to submit your answers.

Thank you

Thank you for participating.

Your answers will now be collated and analysed to produce the next survey which will be emailed to you in a few weeks time.

If you have any questions please contact the researcher on **ibigginresearch@gmail.com** or **07530195926**

Key for selection options

4 - Competed in

Team sport

Individual sport

Both team and individual sport

Appendix I: Elite Coach Delphi Round One Questionnaire

Coaches' perceptions of mental ill-health in elite athletes: Survey 1

Welcome

Welcome to the first of three coach surveys of this research project. This survey aims to investigate coaches' perceptions of mental ill-health in UK elite athletes, how issues arise and barriers to accessing assistance. **The project does not aim to determine the mental health of participants, but rather to gain their views on the topic.**

This project aims to inform the practice of those working with elite athletes through the development of guidance about the identification and management mental ill-health. Your participation has the potential to influence future practise to reduce distress, improve wellbeing and prolong athletic careers. We very much appreciate your participation in this project.

The survey is completed anonymously, can be saved part way through by clicking the **Finish later** button and takes around 30 minutes to complete.

*Please note that once you have completed the survey and clicked on the **CONTINUE** button your answers are submitted and you can not return to review or amend your survey.*

Data Protection

All data collected in this survey will be held anonymously and securely, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. Your anonymous responses to the online surveys will be shared with other research participants and may be included in the write up of this investigation and future publications, however your name and identity will not be attached to this information at any time.

Cookies, personal data stored by your Web browser, are not used in this survey.

Prior to the completion of this investigation, you may decide to stop being a part of the research study at any time without explanation and request that any data you have supplied to that point be withdrawn/destroyed. For further information regarding your rights as a participant in the research project please see the **Participant Information sheet** provided during recruitment or by clicking on this link
<https://www.dropbox.com/s/c6gym6hxhcdz3hj/PARTICIPANT%20INFORMATION%20SHEET.docx>

Survey

This survey is 1 page long and consists of **17 questions**. You may pause and resume this survey at a later time by pressing the **Finish Later** button. Please note that once you have completed the survey and clicked on the **CONTINUE** button your answers are submitted and you can not return to review or amend your survey.

Demographics

Please complete the following demographic fields.

1 Participant code

 More info

Your participant code was emailed to you during recruitment; it is individual to you and will allow you to participate anonymously, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. If you cannot locate your participant code please contact the researcher (ibigginresearch@gmail.com) and request a reminder be sent to you by email.

2 Gender

☒ Male

☐ Female

3 Age

4 Coaching experience

5 Which sports do you coach?

6 Years of experience coaching international level athletes

7 Current level of coaching qualification

8 Have you previously competed as an athlete at an international level?

- ☐ Yes
☐ No

9 Which of the following identities do you feel apply to you?

- ☐ Athlete
☐ Coach
☐ Professional (Other than athlete or coach)
☐ Parent
☐ Daughter/Son

- ☐ Husband/Wife/Partner
- ☐ Carer
- ☐ Other

9.a If you selected Other, please specify:

Mental ill-health

10 "Mental health problems include a wide range of experiences: some problems may be quite mild or moderate, while others may take on a more severe form, affecting a person's ability to cope with day-to-day living. You may have heard about some of the more commonly discussed problems such as depression, anxiety, self-harm, eating disorders, schizophrenia, psychosis, stress and bi-polar disorder." (MIND website, 2013) Sometimes people suffering from mental ill-health seek the help of a doctor or therapist but many people do not. With this and the above definition in mind please describe any previous experience you have had with mental illness, either personally or professionally, that you feel comfortable disclosing anonymously.

Elite athletes with mental ill-health

11 **Prevalence:** Do you feel that elite athletes are more or less likely to develop mental ill-health than the general population?

☐ More likely☐ Less likely☐ Neither more nor less likely

11.a Why do you believe this is?

12 Contributing factors: Research has suggested that for some elite athletes who develop mental ill-health, some factors relating to their role as an elite athlete might have contributed to this. What factors do you feel might contribute to some elite athletes developing mental ill-health? (Please list as many factors as you feel are relevant, including an explanation for your response)

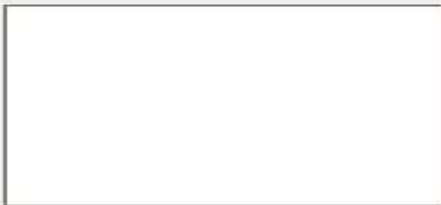
13 Prevention: What do you believe could be done to prevent mental ill-health in elite athletes?

14 Support: What support do you feel is currently available for elite athletes who are

experiencing mental ill-health? (Please list and describe the types of support available).



15 Barriers to support: Research suggests that there might be some barriers to elite athletes experiencing mental ill-health from accessing support, what do you think these barriers might be? (Please list and describe each barrier)



16 Further support: What do you believe could be done to further support elite athletes with mental ill-health? (Please describe each type of support).



17 Coaches' role: What role(s) do you perceive coaches play (or could play) in working with elite athletes experiencing mental ill-health? (Please describe each role)



Thank you

Thank you for completing this survey.

Once you have answer all 17 questions and are happy with your answers please click the **continue** button to submit your answers.

Thank you

Thank you for participating.

Your answers will now be collated and analysed to produce the next survey which will be emailed to you in a few weeks time.

If you have any questions please contact the researcher on **ibigginresearch@gmail.com** or **07530195926**

Key for selection options

4 - Coaching experience

Teams

Individuals

Both teams and individuals

Appendix J: Elite Athlete Delphi Round Two Questionnaire

Athletes' perceptions of mental ill-health in elite athletes: Survey 2

Welcome

Welcome to the second of three athlete surveys of this research project. This survey aims to investigate athletes' perceptions of mental ill-health in UK elite athletes, how issues arise and barriers to accessing assistance. **The project does not aim to determine the mental health of participants, but rather to gain their views on the topic.**

This project aims to inform the practice of those working with elite athletes through the development of guidance about the identification and management mental ill-health. Your participation has the potential to influence future practise to reduce distress, improve well being and prolong athletic careers. We very much appreciate your participation in this project.

The survey takes around 30 minutes to complete and is completed anonymously. It can be saved part way through by clicking the **Finish later** button and copying the URL link that it provided.

*Please note that once you have completed the survey and clicked on the **CONTINUE** button your answers are submitted and you cannot return to review or amend your survey.*

Data Protection

All data collected in this survey will be held anonymously and securely, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. Your anonymous responses to the online surveys will be shared with other research participants and may be included in the write up of this investigation and future publications, however your name and identity will not be attached to this information at any time. Cookies, personal data stored by your Web browser, are not used in this survey.

Prior to the completion of this investigation, you may decide to stop being a part of the research study at any time without explanation and request that any data you have supplied to that point be withdrawn/destroyed. For further information regarding your rights as a participant in the research project please see the **Participant Information sheet** provided during recruitment or by clicking on this link
<https://www.dropbox.com/s/c6gym6hxhcdz3hj/PARTICIPANT%20INFORMATION%20SHEET.docx>

Survey

This survey is **1 page** long and consists of **23 questions**. You may pause and resume this survey at a later time by pressing the **Finish Later** button and **copying the URL link provided**.

Note that once you have clicked on the **CONTINUE** button your answers are submitted and you can not return to review or amend that page.

Participant Number

Your participant code was emailed to you during recruitment; it is individual to you and will allow you to participate anonymously, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. If you cannot locate your participant code please contact the researcher (ibigginresearch@gmail.com) and request a reminder be sent to you by email.

1 Participant number

Prevalence of mental ill health in elite athletes

2 Responses from survey 1 suggested that over **70%** of the athletes who responded stated that they had **personally experienced some form of mental ill health** ranging from anxiety, depression, eating disorders and panic attacks. Some sought professional help, others did not. Please state how this figure compares to what you would expect it to be.

- | | | |
|---|---|---|
| <input type="radio"/> Much less than I would expect | <input type="radio"/> Somewhat less than I would expect | <input type="radio"/> About what I would expect |
| <input type="radio"/> Somewhat more than I would expect | <input type="radio"/> Much more than I would expect | |

3 Some responses from survey 1 suggested that elite athletes are **more likely** than the general population to experience mental ill health **due to being under a high level of pressure from multiple factors**. Please state how much you agree with this statement.

- | | | |
|--------------------------------------|---|---|
| <input type="radio"/> Strongly Agree | <input type="radio"/> Agree | <input type="radio"/> Neither agree or disagree |
| <input type="radio"/> Disagree | <input type="radio"/> Strongly disagree | |

4 Some responses to survey 1 suggested that elite athletes may be **less likely** than the general population to experience mental ill health **due to sport being beneficial to athletes' mental well being**. Please state how much you agree with this statement.

- ☐ Strongly agree ☐ Agree ☐ Neither agree or disagree
☐ Disagree ☐ Strongly disagree

5 Some responses to survey 1 suggested that elite athletes may be **less likely** than the general population to experience mental ill health **due to elite athletes having resilient personalities**. Please state how much you agree with this statement.

- ☐ Strongly Agree ☐ Agree ☐ Neither Agree or Disagree
☐ Disagree ☐ Strongly disagree

6 Some responses from survey 1 suggested that elite athletes have the **same likelihood** as any member of the general population of experiencing mental ill health **due to the life stressors experienced by elite athletes being no more or less stressful than members of the general population**. Please state how much you agree with this statement.

- ☐ Strongly agree ☐ Agree ☐ Neither agree or disagree
☐ Disagree ☐ Strongly disagree

7 Some of the responses to survey 1 suggested that mental ill health is **not openly talked about** among elite athletes. Please state how much you agree with this statement.

- ☐ Strongly Agree ☐ Agree ☐ Neither agree or disagree
☐ Disagree ☐ Strongly disagree

8 Some responses to survey 1 suggested that there is **little knowledge** about mental ill health among elite athletes. Please state how much you agree with this statement.

- ☐ Strongly Agree ☐ Agree ☐ Neither Agree or Disagree
☐ Disagree ☐ Strongly disagree

Factors contributing to mental ill health

9 The following issues were suggested as possible factors which may **contribute** to some elite athletes experiencing mental ill health. Please rank the **five** factors you feel are **most relevant** and select any factors that you **do not feel are relevant**. (select all that apply)

Rank/ Not relevant

	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	Not relevant
Pressure due to others' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure athletes put upon themselves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical stressors athletes put on their bodies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure from the media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being concerned about the impact of weight on performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure to fulfill a particular body ideal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strictly controlled diets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being highly focused and disciplined in training, diet and lifestyle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure to perform and succeed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fear of failing in aims	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consistently training, without sufficient time for recovery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Injury	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being prevented from competing due to being dropped from the team or disqualification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Retirement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Little or no time for relationships outside sport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure from coaches to perform	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial pressures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of peer support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10 Some of the responses to survey 1 suggested that there may be a culture within some sport whereby the priority of **athletes' well-being is overridden by the drive for corporate profit**. Please state how much you agree with this statement.

- ☐ Strongly agree
 ☐ Agree
 ☐ Neither agree or disagree
 ☐ Disagree
 ☐ Strongly disagree

Prevention

II The following suggestions were made as possible ways to help **prevent mental ill health** in elite athletes. Please rank the suggestions you feel would be **helpful** from the one you feel would be the **most** helpful (1st rank position) to the one you feel would be the **least** helpful (up to 10th rank position), and select any factors that you **do not** feel would be helpful.

	Rank/ Not helpful									
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position	8th rank position	9th rank position	10th rank position
Having good support network around the athlete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having people within the support network that the athlete feels comfortable talking to about their experiences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ensuring the athlete spends sufficient time on activities outside of their chosen sport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encouraging and supporting athletes to plan for their future following their athletic career	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taking a more holistic approach to training that considers mental and physical health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Governing bodies linking with mental health support networks to support athletes mental wellbeing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Putting restrictions on what the media can report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having sport psychologists involved in the athletes support network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allowing the athlete enough time to recover following training or competition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better organisation and structure to the support network around the athlete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12 Some of the responses to survey 1 suggested that there is **little funding available** within sports to put towards the prevention of mental ill health in elite athletes. Please state how much you agree with this statement:

- ☐ Strongly agree
 ☐ Agree
 ☐ Neither agree or disagree
 ☐ Disagree
 ☐ Strongly disagree

13 Some of the responses to survey 1 suggested that there are many factors which may contribute to elite athletes developing mental ill health which are part of being an elite athlete and which **cannot be avoided**, limiting the prevention of mental ill health in elite athletes. Please state how much you agree with this statement:

- ☐ Strongly Agree ☐ Agree ☐ Neither Agree or Disagree
☐ Disagree ☐ Strongly disagree

Current support

14 The following **supports** were described as currently available for elite athletes experiencing mental ill health. Please rank all of these from the support you feel elite athletes would be **most** likely to access (Rank position 1) to the support that they would be **least** likely to access (Rank position 4). (select all that apply)

	Rank			
	1st rank position	2nd rank position	3rd rank position	4th rank position
Support from friends and family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Support from coaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Support from the same mental health services as the general population	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Support of a sport psychologist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15 Some of the responses to survey 1 suggested that the support available to athletes experiencing mental ill health may **depend on the level of funding** the athlete receives. Please state how much you agree with this statement

- ☐ Strongly agree ☐ Agree ☐ Neither agree or disagree
☐ Disagree ☐ Strongly disagree

16 Some of the responses to survey 1 suggested that there is **little support** for athletes who experience mental ill health. Please state how much you agree with this statement

- ☐ Strongly Agree ☐ Agree ☐ Neither Agree or Disagree
☐ Disagree ☐ Strongly disagree

Barriers to support

17 For athletes experiencing mental ill health, the following factors were described as **barriers to accessing support**. Please rank the factors you feel present a **challenge** to elite athletes accessing support, from the one you feel is the **largest** challenge (1st rank position) to the one you feel is the **smallest** (up to 9th rank position) and select any factors that you **do not** feel are a challenge to athletes accessing support.

	Rank/ Not important									
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position	8th rank position	9th rank position	Not a challenge
Fear it is a sign of weakness or failure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do not want others to know	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Funding issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feel they will be letting others down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do not understand what they are experiencing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Do not wish to admit they are experiencing mental ill health due to the stigma attached to it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A lack of knowledge in athletes and support team about what support is available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concerned that they may not be selected to compete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not having the time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Further support

18 The following suggestions were described as **ways to support** elite athletes experiencing mental ill health. Please rank the suggestions you feel would be **helpful**, from the suggestion you feel would be the **most** helpful (1st rank position) in supporting elite athletes experiencing mental ill health to the suggestion you feel would be the **least** helpful (up to 9th rank position) and select any suggestions that you **do not** feel would be helpful.

	Rank/ Not helpful									
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position	8th rank position	9th rank position	Not helpful
Incorporating psychologists into athletes' support networks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing athletes and those who support them with information about what support is available and how to access it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specialist mental health support specifically for athletes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regular contact and interaction between athletes and support network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Early intervention to minimise the long term impact of mental ill health for elite athletes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More information for athlete's and those who support them about mental health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Athletes who have experienced mental ill health coming forward about how they have managed this	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Athletes and their support network recognising that mental health is part of a holistic health approach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being more open and talking about mental ill health as being an issue in our culture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19 Some of the responses to survey 1 suggested that **several different professionals** may provide support for athletes experiencing mental ill health. Please rank all of these from the professional you feel would be the **most** appropriate in supporting elite athletes experiencing mental ill health (1st rank position) to the **least** appropriate (7th rank position). A short description of the competencies of each professional is provided to help you to distinguish the role of each.

	Rank						
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position
Physiotherapist: Physiotherapists help people affected by injury, illness or disability through movement and exercise, manual therapy, education and advice. They maintain health for people of all ages, helping patients to manage pain and prevent disease. (Chartered Society of Physiotherapists)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sports Coach: Sports Coaches help people participating in sports to work towards achieving their full potential. They bring out ability by identifying needs and planning and implementing suitable training programmes. Coaching involves developing the participants' physical and psychological fitness and providing the best possible practical conditions in order to maximise their performance. (www.prospects.ac.uk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Practitioner: GPs provide a complete spectrum of care within the local community: dealing with problems that often combine physical, psychological and social components. They increasingly work in teams with other professions, helping patients to take responsibility for their own health. (www.nhscareers.nhs.uk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sport Physician: Sport and Exercise Medicine (SEM) is concerned with the management of medical conditions and injury in those who participate in physical activity. The role of this medical specialty has also developed to include expertise in exercise advice, prescription and promotion for general health and in those with chronic medical problems. (www.MedicalCareers.nhs.uk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sport Psychologist: Sport Psychologists are interested in helping athletes to perform better, more consistently and improving the quality of experience of participation in sport as well as other issues such as career transitions (such as retirement), coach behaviour and communication skills.(British Psychological Society)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sports and Exercise Nutritionists: Sports and Exercise Nutritionists develop, implement and evaluate nutritional strategies to optimise performance in sport and exercise. They determine the energy, fluid and nutrient demands of sport and exercise and provide tailored dietary advice to individuals and groups, ranging from recreational athletes, enthusiastic amateurs to elite professional athletes. (Association for Nutrition)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clinical Psychologist: Clinical Psychology aims to reduce psychological distress and to enhance the promotion of psychological well-being. Clinical Psychologists deal with a wide range of mental and physical health problems including addiction, anxiety, depression, learning difficulties and relationship issues. They may undertake a clinical assessment to investigate a clients' situation. Assessment may lead to advice, counselling or therapy. (British Psychological Society)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The role of coaches

20 The following suggestions were described as **roles coaches play** (or could play) in

working with elite athletes experiencing mental ill-health. Please rank the roles you feel would be **appropriate**, from the role you feel would be the **most** appropriate (1st rank position) for coaches to play in supporting elite athletes experiencing mental ill health to the role that you feel would be the **least** appropriate (up to 7th rank position) and select any roles that you **do not feel** are appropriate.

	Rank/ Not appropriate							
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position	Not appropriate
To show an understanding of the experiences of an athlete with mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To support an athlete with mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To help athletes with mental ill health by adapting training schedules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To recognise signs and symptoms of mental ill health in an athlete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To direct the athlete with mental ill health to appropriate support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To take a holistic approach to training athletes, including their physical and mental well-being	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To be approachable and communicate openly with athletes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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21 Some of the responses to survey 1 suggested **coaches' resources may prevent** them from supporting athletes with mental ill health. Please state how much you agree with this statement

- ☐ Strongly agree
 ☐ Agree
 ☐ Neither agree or disagree
☐ Disagree
 ☐ Strongly disagree

22 Some of the responses to survey 1 suggested **coaches' own motives** may prevent them from supporting athletes with mental ill health. Please state how much you agree with this statement.

- ☐ Strongly agree
 ☐ Agree
 ☐ Neither agree or disagree
☐ Disagree
 ☐ Strongly disagree

23 Please add any other comments you would like to make.

End of the survey

Thank you for completing this survey.

Once you have answer all 23 questions and are happy with your answers please click the **continue** button to submit your answers.

Thank you

Thank you for participating.

Your answers will now be collated and analysed to produce the next survey which will be emailed to you soon.

If you have any questions please contact the researcher on ibigginresearch@gmail.com or 07530195926

Respondents can now leave the survey - you could offer them a link like this one:

Please follow this link to return to the:

[Bristol Online Surveys Homepage](#)

Appendix K: Elite Coach Delphi Round Two Questionnaire

Coaches' perceptions of mental ill health in elite athletes: Survey 2

Welcome

Welcome to the second of three coach surveys of this research project. This survey aims to investigate coaches' perceptions of mental ill-health in UK elite athletes, how issues arise and barriers to accessing assistance. **The project does not aim to determine the mental health of participants, but rather to gain their views on the topic.**

This project aims to inform the practice of those working with elite athletes through the development of guidance about the identification and management mental ill-health. Your participation has the potential to influence future practise to reduce distress, improve wellbeing and prolong athletic careers. We very much appreciate your participation in this project.

The survey takes around 30 minutes to complete and is completed anonymously. It can be saved part way through by clicking the **Finish later** button and **copying the URL link** that it provided.

*Please note that once you have completed the survey and clicked on the **CONTINUE** button your answers are submitted and you cannot return to review or amend your survey.*

Data Protection

All data collected in this survey will be held anonymously and securely, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. Your anonymous responses to the online surveys will be shared with other research participants and may be included in the write up of this investigation and future publications, however your name and identity will not be attached to this information at any time. Cookies, personal data stored by your Web browser, are not used in this survey.

Prior to the completion of this investigation, you may decide to stop being a part of the research study at any time without explanation and request that any data you have supplied to that point be withdrawn/destroyed. For further information regarding your rights as a participant in the research project please see the **Participant Information sheet** provided during recruitment or by clicking on this link

<https://www.dropbox.com/s/c6gym6hxhcdz3hj/PARTICIPANT%20INFORMATION%20SHEET.docx>

Survey

This survey is 1 page long and consists of 18 questions. You may pause and resume this survey at a later time by pressing the **Finish Later** button and **copying the URL link provided**.

Note that once you have clicked on the **CONTINUE** button your answers are submitted and you can not return to review or amend that page.

Participant Number

Your participant code was emailed to you during recruitment; it is individual to you and will allow you to participate anonymously, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. If you cannot locate your participant code please contact the researcher (ibigginresearch@gmail.com) and request a reminder be sent to you by email.

1 Participant number

Prevalence of mental ill health in elite athletes

2 Responses from survey 1 suggested that over **37%** of the coaches who responded stated that they had **seen or suspected some form of mental ill health in athletes they had coached**, ranging from anxiety, depression and eating disorders. Some sought professional help, others did not. Please state how this figure **compares** to what you would expect it to be.

- | | | |
|---|---|---|
| <input type="radio"/> Much less than expected | <input type="radio"/> Somewhat less than expected | <input type="radio"/> About what I would expect |
| <input type="radio"/> Somewhat more than I would expect | <input type="radio"/> Much more than I would expect | |

3 Some responses from survey 1 suggested that elite athletes are **more likely** than the general population to experience mental ill health **due to being under a high level of pressure**. Please state how much you agree with this statement.

- | | | |
|--------------------------------------|---|---|
| <input type="radio"/> Strongly Agree | <input type="radio"/> Agree | <input type="radio"/> Neither agree or disagree |
| <input type="radio"/> Disagree | <input type="radio"/> Strongly disagree | |

4 Some responses from survey 1 suggested that elite athletes have the **same likelihood** as any member of the general population of experiencing mental ill health **due to individual differences impacting on mental ill health**. Please state how much you agree with this statement.

- | | | |
|--------------------------------------|-----------------------------|---|
| <input type="radio"/> Strongly agree | <input type="radio"/> Agree | <input type="radio"/> Neither agree or disagree |
|--------------------------------------|-----------------------------|---|

☐ Disagree ☐ Strongly disagree

5 Some responses to survey 1 suggested that elite athletes may be **less likely** than the general population to experience mental ill health **due to physical exercise having a positive impact on mental health**. Please state how much you agree with this statement.

☐ Strongly agree ☐ Agree ☐ Neither agree or disagree
☐ Disagree ☐ Strongly disagree

Factors contributing to mental ill health

6 The following issues were suggested as possible factors which may **contribute** to some elite athletes experiencing mental ill health. Please rank the **five** factors you feel are **most relevant** and select any factors that you **do not feel are relevant**. (select all that apply)

	Rank/ Not relevant					
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	Not relevant
The pressure of team selection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performing below expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Financial pressures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Athletes' single mindedness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being isolated from friends and family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being concerned with letting others down	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Having unrealistic expectations of themselves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fear of failing in aims	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure from the media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure from others outside of sport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure from coaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strictly controlled diets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure to fulfill a particular body image	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pressure athletes put upon themselves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Feelings of insecurity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7 Some of the responses to survey 1 suggested that **traits such as perfectionism or obsessive compulsive tendencies may actually contribute to an athlete's success**. Please state how much you agree with this statement.

- ☐ Strongly agree
 ☐ Agree
 ☐ Neither agree or disagree
☐ Disagree
 ☐ Strongly disagree

Prevention

8 The following suggestions were made as possible ways to **help prevent mental ill health** in elite athletes. Please rank **five** suggestions that you feel would be the **most** helpful and select any factors that you **do not** feel would be helpful.

	Rank/ Not helpful					
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	Not helpful
Involving mental health professionals in athletes support networks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Involving sports psychologist in athletes support networks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased information for athletes about mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased information for coaches about mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Earlier intervention for mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taking a more holistic approach to athletes' training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open communication between coaches and athletes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Workshops about mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting athletes to prepare for the end of their career	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Governing bodies being involved in preventing mental ill health in elite athletes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More time for athletes to socialise	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Athletes' who have experienced mental ill health talking about their experiences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulating the media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Screening for a family history of mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Families being more aware of mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Current support

9 The following **supports** were described as currently available for elite athletes experiencing mental ill health. Please rank all of these from the support you feel elite athletes would be **most** likely to access (Rank position 1) to the support that they would be **least** likely to access (Rank position 5). (select all that apply)

	Rank				
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position
Support from Performance/ lifestyle coaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Support from members of the athlete's coaching team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Support from friends and family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Support from performance or scholarship programmes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional support provided by the National Governing Body	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10 Some of the responses to survey 1 suggested that the support available to athletes experiencing mental ill health may **depend on the level of funding** the athlete receives. Please state how much you agree with this statement

- ☐ Strongly agree
 ☐ Agree
 ☐ Neither agree or disagree
 ☐ Disagree
 ☐ Strongly disagree

11 Some of the responses to survey 1 suggested that there is no support available which is **specific to elite athletes** who experience mental ill health. Please state how much you agree with this statement

- ☐ Strongly agree
 ☐ Agree
 ☐ Neither agree or disagree
 ☐ Disagree
 ☐ Strongly disagree

Barriers to support

12 For athletes experiencing mental ill health, the following factors were described as **barriers to accessing support**. Please rank the factors you feel present a **challenge** to elite athletes accessing support, from the factor you feel is the **largest** challenge (1st rank position) to the one you feel is the **smallest** (up to 9th rank position) and select any factors that you **do not** feel are a challenge to athletes accessing support.

Rank/ Not relevant

	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position	8th rank position	9th rank position	Not relevant
Athletes' lack of knowledge about mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coaches' lack knowledge about mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stigma surrounding mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Athletes fear of looking weak to their peers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Athletes finding it difficult to admit they are experiencing mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National governing bodies gate keeping available support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Concerns over confidentiality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not being supported by clubs/ organisations due to their mental ill health affecting their performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of funding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Further support

13 The following suggestions were described as **ways to support** elite athletes experiencing mental ill health. Please rank **five** suggestions you feel would be the **most** helpful in supporting elite athletes experiencing mental ill health and select any suggestions that you **do not** feel would be helpful.

	Rank/ Not helpful					
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	Not helpful
Treatment being more affordable or funding being made available for treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National governing bodies offering more support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessible information about mental ill health, perhaps delivered through workshops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased knowledge of mental ill health in coaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Athlete mentors to support athletes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A named professional/ agency, not involved in the athletes' performance, available to support the athlete and coach	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased openness about mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mental health support used by the general population	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High profile athletes discussing their own experiences of managing mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More regulation of the media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increased recognition of the pressures on athletes and symptoms of mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14 Some of the responses to survey 1 suggested that **several different professionals** may provide support for athletes experiencing mental ill health. Please rank all of these from the professional you feel would be the **most** appropriate in supporting elite athletes experiencing mental ill health (1st rank position) to the **least** appropriate (7th rank position). A short description of the competencies of each professional is provided to help you to distinguish the role of each.

	Rank						
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position

Physiotherapist: Physiotherapists help people affected by injury, illness or disability through movement and exercise, manual therapy, education and advice. They maintain health for people of all ages, helping patients to manage pain and prevent disease.(Chartered Society of Physiotherapists)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Life Coach: A life coach aims to help and empower others to make, meet and exceed personal and professional goals - including excelling in the workplace, becoming happy and fulfilled in the home, exploring the self and the world, and achieving ambitions. By harnessing specialist techniques based on core psychological principals and natural intuition, life coaches provide clients with the tools to confidently face difficult situations, push past emotional barriers and eventually view life with fresh, hopeful and enlightened eyes.(www.lifecoach-directory.org.uk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sport Physician: Sport and Exercise Medicine (SEM) is concerned with the management of medical conditions and injury in those who participate in physical activity. The role of this medical specialty has also developed to include expertise in exercise advice, prescription and promotion for general health and in those with chronic medical problems (www.MedicalCareers.nhs.uk)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sport Psychologist: Sport Psychologists are interested in helping athletes to perform better, more consistently and improving the quality of experience of participation in sport as well as other issues such as career transitions (such as retirement), coach behaviour and communication skills. (British Psychological Society)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sports and Exercise Nutritionists: Sports and Exercise Nutritionists develop, implement and evaluate nutritional strategies to optimise performance in sport and exercise. They determine the energy, fluid and nutrient demands of sport and exercise and provide tailored dietary advice to individuals and groups, ranging from recreational athletes, enthusiastic amateurs to elite professional athletes. (Association for Nutrition)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clinical Psychologist: Clinical psychology aims to reduce psychological distress and to enhance the promotion of psychological well-being. Clinical psychologists deal with a wide range of mental and physical health problems including addiction, anxiety, depression, learning difficulties and relationship issues. They may undertake a clinical assessment to investigate a clients' situation. Assessment may lead to advice, counselling or therapy. (British Psychological Society)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Counselor: The overall aim of counselling is to provide an opportunity to work towards living more satisfyingly and resourcefully. Counselling relationships will vary according to need but may be concerned with developmental issues, addressing and resolving specific problems, making decisions, coping with crisis, developing personal insights and knowledge, working through feelings of inner conflict or improving relationships with others. (Canadian Counselling and Psychotherapy Association)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The role of coaches

15 The following suggestions were described as **roles coaches play** (or could play) in working with elite athletes experiencing mental ill-health. Please rank the roles you feel would be **appropriate**, from the role you feel would be the **most** appropriate (1st rank position) for coaches to play in supporting elite athletes experiencing mental ill health to the **least** appropriate role (up to 10th rank position) and select any roles that you **do not feel** are appropriate.

	Rank/ Not appropriate									
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position	8th rank position	9th rank position	10th rank position
To be someone the athlete feels they can talk to honestly and in confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To be a mentor to the athlete and develop a close, trustworthy and supportive relationship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

To signpost athletes to get appropriate support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To recognise the signs and symptoms of mental ill health in athletes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To try to prevent mental ill health in athletes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To take a holistic approach to athlete development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To protect athletes from factors which may lead to mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To educate athletes about mental ill health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To advocate for the athlete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To reduce the athlete's stress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16 Some of the responses to survey 1 suggested **coaches' resources may prevent** them from supporting athletes with mental ill health. Please state how much you agree with this statement.

- ☐ Strongly agree
 ☐ Agree
 ☐ Neither agree or disagree
 ☐ Disagree
 ☐ Strongly disagree

17 Some of the responses to survey 1 suggested **coaches' own motives** may prevent

them from supporting athletes with mental ill health. Please state how much you agree with this statement.

- ☐ Strongly agree ☐ Agree ☐ Neither agree or disagree
☐ Disagree ☐ Strongly disagree

18. Please add any other comments you would like to make.

End of the survey

Thank you for completing this survey.

Once you have answer all 18 questions and are happy with your answers please click the **continue** button to submit your answers.

Thank you

Thank you for participating.

Your answers will now be collated and analysed to produce the next survey which will be emailed to you soon.

If you have any questions please contact the researcher on ibigginresearch@gmail.com or 07530195926

Respondents can now leave the survey - you could offer them a link like this one:

Please follow this link to return to the:

[Bristol Online Surveys Homepage](#)

Appendix L: Elite Athlete Delphi Round Three Questionnaire

Athletes' survey 3

Welcome

Welcome to the third (and final) athlete survey of this research project. This survey aims to investigate athletes' perceptions of mental ill-health in UK elite athletes, how issues arise and barriers to accessing assistance. **The project does not aim to determine the mental health of participants, but rather to gain their views on the topic.**

This project aims to inform the practice of those working with elite athletes through the development of guidance about the identification and management mental ill-health. Your participation has the potential to influence future practise to reduce distress, improve well being and prolong athletic careers. We very much appreciate your participation in this project.

The survey takes around 30 minutes to complete and is completed anonymously. It can be saved part way through by clicking the **Finish later** button and copying the URL link that it provided.

*Please note that once you have completed the survey and clicked on the **CONTINUE** button your answers are submitted and you cannot return to review or amend your survey.*

Data Protection

All data collected in this survey will be held anonymously and securely, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. Your anonymous responses to the online surveys will be shared with other research participants and may be included in the write up of this investigation and future publications, however your name and identity will not be attached to this information at any time. Cookies, personal data stored by your Web browser, are not used in this survey.

Prior to the completion of this investigation, you may decide to stop being a part of the research study at any time without explanation and request that any data you have supplied to that point be withdrawn/destroyed. For further information regarding your rights as a participant in the research project please see the **Participant Information sheet** provided during recruitment or by clicking on this link
<https://www.dropbox.com/s/c6gym6hxhcdz3hj/PARTICIPANT%20INFORMATION%20SHEET.docx>

Survey

This survey is **1 page** long and consists of **14 mandatory questions**. You may pause and resume this survey at a later time by pressing the **Finish Later** button and **copying the URL link provided**.

Note that once you have clicked on the **CONTINUE** button your answers are submitted and you can not return to review or amend that page.

Participant Number

Your participant number was emailed to you during recruitment; it is individual to you and will allow you to participate anonymously, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. If you cannot locate your participant number please contact the researcher (ibigginresearch@gmail.com) and request a reminder be sent to you by email.

1 Participant number

Prevalence of mental ill health in elite athletes

2 The two graphs below represent Coaches' and Athletes' responses to the statement "elite athletes may be **less** likely than the general population to experience mental ill health **due to physical exercise having a positive impact on mental health**". What factors do you think could be responsible for the variation in responses to this question?

Factors contributing to mental ill health

3 Most coaches agreed that traits such as **perfectionism and obsessive compulsive tendencies** may actually contribute to elite athletes' **success**. Please state where you feel a typical elite athlete and a member of the general population would lie on the below scale from 1 to 10 of obsessive compulsive tendencies.

	Obsessive compulsive tendencies									
	1. No obsessional thoughts or ritualised/ compulsive behaviours	2.	3.	4.	5.	6.	7.	8.	9.	10. Time consuming and/or distressing obsessional thoughts and ritualised/ compulsive behaviours suggestive of an Obsessive Compulsive Disorder
A typical elite athlete would have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A typical member of the general population would have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4 Most athletes and coaches ranked the **pressure athletes put on themselves** as being the main factor that might contribute to elite athletes experiencing mental ill health. Do you feel that this is due to:

- ☐ The types of individuals who become elite athletes being more likely to put pressure upon themselves.
- ☐ The unique situation in which elite athletes are positioned.
- ☐ A combination of individual and situational factors.

4.a Please justify your answer

5 The literature is mixed about whether **perfectionism** within elite athletes is **helpful or unhelpful** to their success and wellbeing. Why do you think this is?

6 National statistics state that the following are the **most commonly experienced mental health disorders** in England. Please rank these from the disorder you feel would be **most prevalent** in the elite athletic population (**1st rank position**) to the disorder you feel would be the **least prevalent** in the athletic population (**8th rank position**). Please **select one disorder for each rank position**.

	Rank position							
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position	8th rank position
Depression: From feeling low in spirits, where everything feels harder to do and seems less worthwhile, to more severe cases of feeling suicidal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Anxiety: Feeling anxious for a long period, often feeling fearful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mixed anxiety and depression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phobias: An extreme form of fear or anxiety triggered by a particular situation or object, even if there is no danger.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obsessive compulsive disorder: Obsessive, unwanted and distressing thoughts which the individual try's to deal with through compulsive repetitive behaviours.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Post traumatic stress disorder: Having experienced or witnessed a very stressful or threatening event individuals may experience flashbacks which can trigger distressing feelings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Eating disorders: Including subtypes; Anorexia nervosa (Severely restricting nutrition and energy intake), Bulimia nervosa (eating large amounts in one go followed by purging), Binge eating disorder (Being unable to stop self from eating) and Eating disorder not otherwise specified (the individual meets some, but not all, of the criteria for the above disorders).								
--	--	--	--	--	--	--	--	--

Panic disorder: Unpredictable panic attacks with no apparent triggers which cause a fear of future panic attacks.	○	○	○	○	○	○	○	○
---	---	---	---	---	---	---	---	---

7 Please state your **reasoning** for choosing the disorder you ranked as being **most prevalent** in the elite athlete population.

Support

8 If you were to experience feelings which you **perceived to be signs of mental ill health**, what action do you think you would take and why?

9 The majority of athletes and coaches ranked **Sports Psychologists and Clinical Psychologists** as the 2 **most appropriate** professions to support athletes experiencing mental ill health. Please state what your understanding of the role of a **Sport Psychologist** is.

9.a Please state what your understanding of the role of a **Clinical Psychologist** is.

9.b Please state how a **Clinical Psychologist** may be **more appropriate** in supporting an elite athlete experiencing mental health than a Sport Psychologist.

9.c Please state how a **Sport Psychologist** may be **more appropriate** in supporting an elite athlete experiencing mental health than a Clinical Psychologist.

10 Both athletes and coaches ranked having **high profile athletes** come forward about **managing their own experiences** with mental ill health as a helpful way to support elite athletes experiencing mental ill health. In what **forum** do you think this would be most appropriately achieved?

Barriers to support

11 Both athletes and coaches ranked **stigma associated with mental ill health** as being the biggest **barrier** to athletes experiencing mental ill health accessing support. What do you feel could be done to **reduce** the stigma of mental ill health within sporting communities?

The role of coaches

12 Most athletes and coaches ranked **being able to recognise the signs and symptoms of mental ill health** as an important **role that coaches play** in working with elite athletes experiencing mental ill health. Please rate how **confident** you are that your coach would be able to **recognise the signs and symptoms** of mental ill health in an elite athlete?

- ☐ Very unconfident ☐ Somewhat unconfident ☐ Neither confident nor unconfident
☐ Somewhat confident ☐ Very confident

12.a What would help you feel **more confident**?

13 Most athletes and coaches agreed that **coaches' resources** may **prevent** them from supporting athletes with mental ill health. **What** do you feel could be done to **provide** coaches with the resources required to support athletes with mental ill health and **where** do you think these resources would come from?

14 The two graphs below represent Coaches' and Athletes' responses to the statement "**coaches' own motives may prevent them from supporting athletes with mental ill health**". Why do you believe this question produced such varied responses?

14.a In what **circumstances** do you think a **coach's motivations may prevent** them from supporting athletes with mental ill health?

14.a.i What do you feel could be **done to reduce** this happening?

15 Please add any other comments you would like to make.

End of the survey

Thank you for completing this survey.

Once you have answer all 14 mandatory questions and are happy with your answers please

click the **continue** button to submit your answers.

Thank you

Thank you for participating in this research investigation, it is much appreciated. Your responses will now be analysed and I hope to have a summary of the research findings emailed to you some time in the new year.

If you have any questions please contact the researcher on ibigginresearch@gmail.com or 07530195926

Respondents can now leave the survey - you could offer them a link like this one:

Please follow this link to return to the:

[Bristol Online Surveys Homepage](#)

Appendix M: Elite Coach Delphi Round Three Questionnaire

Coaches' survey 3

Welcome

Welcome to the third (and final) coach survey of this research project. This survey aims to investigate coaches' perceptions of mental ill-health in UK elite athletes, how issues arise and barriers to accessing assistance. **The project does not aim to determine the mental health of participants, but rather to gain their views on the topic.**

This project aims to inform the practice of those working with elite athletes through the development of guidance about the identification and management mental ill-health. Your participation has the potential to influence future practise to reduce distress, improve well being and prolong athletic careers. We very much appreciate your participation in this project.

The survey takes around 30 minutes to complete and is completed anonymously. It can be saved part way through by clicking the **Finish later** button and copying the URL link that it provided.

*Please note that once you have completed the survey and clicked on the **CONTINUE** button your answers are submitted and you cannot return to review or amend your survey.*

Data Protection

All data collected in this survey will be held anonymously and securely, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. Your anonymous responses to the online surveys will be shared with other research participants and may be included in the write up of this investigation and future publications, however your name and identity will not be attached to this information at any time. Cookies, personal data stored by your Web browser, are not used in this survey.

Prior to the completion of this investigation, you may decide to stop being a part of the research study at any time without explanation and request that any data you have supplied to that point be withdrawn/destroyed. For further information regarding your rights as a participant in the research project please see the **Participant Information sheet** provided during recruitment or by clicking on this link
<https://www.dropbox.com/s/c6gym6hxhcdz3hj/PARTICIPANT%20INFORMATION%20SHEET.docx>

Survey

This survey is **1 page** long and consists of **14 mandatory questions**. You may pause and resume this survey at a later time by pressing the **Finish Later** button and **copying the URL link provided**.

Note that once you have clicked on the **CONTINUE** button your answers are submitted and you can not return to review or amend that page.

Participant Number

Your participant number was emailed to you during recruitment; it is individual to you and will allow you to participate anonymously, meaning that you will not be identifiable to anyone during or after the research investigation, other than the researcher. If you cannot locate your participant number please contact the researcher (**ibigginresearch@gmail.com**) and request a reminder be sent to you by email.

1 Participant number

Prevalence of mental ill health in elite athletes

2 The two graphs below represent Coaches' and Athletes' responses to the statement "elite athletes may be **less** likely than the general population to experience mental ill health **due to physical exercise having a positive impact on mental health**". What factors do you think could be responsible for the variation in responses to this question?

Factors contributing to mental ill health

3 Most coaches agreed that traits such as **perfectionism and obsessive compulsive tendencies** may actually contribute to elite athletes' **success**. Please state where you feel a typical elite athlete and a member of the general population would lie on the below scale from 1 to 10 of obsessive compulsive tendencies.

	Obsessive compulsive tendencies									
	1. No obsessional thoughts or ritualised/ compulsive behaviours	2.	3.	4.	5.	6.	7.	8.	9.	10. Time consuming and/or distressing obsessional thoughts and ritualised/ compulsive behaviours suggestive of an Obsessive Compulsive Disorder
A typical elite athlete would have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A typical member of the general population would have	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4 Most athletes and coaches ranked the **pressure athletes put on themselves** as being the main factor that might contribute to elite athletes experiencing mental ill health. Do you feel that this is due to:

- ☐ The types of individuals who become elite athletes being more likely to put pressure upon themselves.
- ☐ The unique situation in which elite athletes are positioned.
- ☐ A combination of individual and situational factors.









4.a Please justify your answer

5 The literature is mixed about whether **perfectionism** within elite athletes is **helpful or unhelpful** to their success and wellbeing. Why do you think this is?

6 National statistics state that the following are the **most commonly experienced mental health disorders** in England. Please rank these from the disorder you feel would be **most prevalent** in the elite athletic population (**1st rank position**) to the disorder you feel would be the **least prevalent** in the athletic population (**8th rank position**). Please **select one disorder for each rank position**.

	Rank position							
	1st rank position	2nd rank position	3rd rank position	4th rank position	5th rank position	6th rank position	7th rank position	8th rank position
Depression: From feeling low in spirits, where everything feels harder to do and seems less worthwhile, to more severe cases of feeling suicidal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Anxiety: Feeling anxious for a long period, often feeling fearful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mixed anxiety and depression.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Phobias: An extreme form of fear or anxiety triggered by a particular situation or object, even if there is no danger.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Obsessive compulsive disorder: Obsessive, unwanted and distressing thoughts which the individual try's to deal with through compulsive repetitive behaviours.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Post traumatic stress disorder: Having experienced or witnessed a very stressful or threatening event individuals may experience flashbacks which can trigger distressing feelings.								
---	---	---	---	---	---	---	---	---

Eating disorders: Including subtypes; Anorexia nervosa (Severely restricting nutrition and energy intake), Bulimia nervosa (eating large amounts in one go followed by purging), Binge eating disorder (Being unable to stop self from eating) and Eating disorder not otherwise specified (the individual meets some, but not all, of the criteria for the above disorders).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Panic disorder: Unpredictable panic attacks with no apparent triggers which cause a fear of future panic attacks.	○	○	○	○	○	○	○	○
---	---	---	---	---	---	---	---	---

7 Please state your **reasoning** for choosing the disorder you ranked as being **most prevalent** in the elite athlete population.

Support

8 If you were to coach an athlete who was displaying behaviours which you **perceived to be signs of mental ill health**, what action do you think you would take and why?

9 The majority of athletes and coaches ranked **Sports Psychologists and Clinical Psychologists** as the 2 **most appropriate** professions to support athletes experiencing mental ill health. Please state what your understanding of the role of a **Sport Psychologist** is.

9.a Please state what your understanding of the role of a **Clinical Psychologist** is.

9.b Please state how a **Clinical Psychologist** may be **more appropriate** in supporting an elite athlete experiencing mental health than a Sport Psychologist.

9.c Please state how a **Sport Psychologist** may be **more appropriate** in supporting an elite athlete experiencing mental health than a Clinical Psychologist.

10 Both athletes and coaches ranked having **high profile athletes** come forward about **managing their own experiences** with mental ill health as a helpful way to support elite athletes experiencing mental ill health. In what **forum** do you think this would be most appropriately achieved?

Barriers to support

11 Both athletes and coaches ranked **stigma associated with mental ill health** as being the biggest **barrier** to athletes experiencing mental ill health accessing support. What do you feel could be done to **reduce** the stigma of mental ill health within sporting communities?

The role of coaches

12 Most athletes and coaches ranked **being able to recognise the signs and symptoms of mental ill health** as an important **role that coaches play** in working with elite athletes experiencing mental ill health. Please rate how **confident** you are that you would be able to **recognise the signs and symptoms** of mental ill health in an elite athlete?

- ☐ Very unconfident ☐ Somewhat unconfident ☐ Neither confident nor unconfident
☐ Somewhat confident ☐ Very confident

12.a What would help you feel **more confident**?

13 Most athletes and coaches agreed that **coaches' resources** may **prevent** them from supporting athletes with mental ill health. **What** do you feel could be done to **provide** coaches with the resources required to support athletes with mental ill health and **where** do you think these resources would come from?

14 The two graphs below represent Coaches' and Athletes' responses to the statement "**coaches' own motives may prevent them from supporting athletes with mental ill health**". Why do you believe this question produced such varied responses?



14.a In what **circumstances** do you think a **coach's motivations may prevent** them from supporting athletes with mental ill health?



14.a.i What do you feel could be **done to reduce** this happening?



15 Please add any other comments you would like to make.



End of the survey

Thank you for completing this survey.

Once you have answer all 14 mandatory questions and are happy with your answers please

click the **continue** button to submit your answers.

Thank you

Thank you for participating in this research investigation, it is very much appreciated. Your responses will now be analysed and I hope to have a summary of the research findings emailed to you some time in the new year.

If you have any questions please contact the researcher on ibigginresearch@gmail.com or 07530195926

Respondents can now leave the survey - you could offer them a link like this one:

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Appendix N: Feedback Letter to be Sent to Participants

Dear (name of participant)

Project title: *An investigation of elite athletes' and coaches' perceptions of mental ill-health in elite athletes.*

As you may remember a few months ago you kindly took part in my online investigation with the aim of exploring elite athletes' and coaches' perceptions of the issues surrounding mental ill-health amongst elite athletes. Now that all the data has been collected and analysed, I am writing to summarise what I have found.

In total 20 athletes who had competed at an international level in the past 2 years and 16 coaches who had a level 2 coaching qualification or above and had coached an athlete who had competed internationally in the past 2 years took part in the study. All participants were asked to complete 3 online surveys about mental ill-health in elite athletes. The dropout rate was very low for this study and a total of 16 athletes and 13 coaches completed all three surveys. Through the process of analysing the responses and feeding these back to both the athlete and coach groups for clarification and ratings of agreement/ disagreement, some very interesting findings emerged.

Findings

In relation to the prevalence of mental ill-health amongst elite athletes, the athlete group reached a level of consensus in agreement that elite athletes are more likely than the general population to develop mental ill-health, whilst coaches did not reach a consensus on this. The athlete group reported having personally experienced mental ill-health at a higher rate than the coach group reported having witnessed it amongst athletes. However, both groups agreed that the pressure athletes place upon themselves is the most significant factor contributing to the development of mental ill-health amongst elite athletes. They also rated elite athletes as having higher Obsessive Compulsive Disorder (OCD) tendencies than the general population and ranked OCD and anxiety as two of the most prevalent mental disorders amongst elite athletes.

Athletes and coaches agreed that the biggest barrier to athletes seeking support is the stigma surrounding mental ill-health and suggested that more open discussion and awareness about the issue was needed. Both groups felt sport psychologists and clinical psychologists would provide the most appropriate support, however, both groups also suggested that the sport psychologist's role is not to offer support for mental ill-health. Both groups felt coaches play an important role in recognising the signs and symptoms of mental ill-health amongst elite athletes, but felt that they need more education and training around this issue.

Your participation in this study has been hugely valuable and I hope that you enjoyed taking in part. I am hoping that the findings of this investigation will be helpful to professionals working with elite athletes experiencing mental ill-health as well as encourage further research into the prevalence of mental ill-health amongst elite athletes and how to reduce the stigma surrounding these issues.

If you have any questions regarding the study, please do not hesitate to contact me on 07530195926 or ibigginresearch@gmail.com.

Yours sincerely

Isobelle Biggin

Trainee Clinical Psychologist
Salomons Centre for Applied Psychology
Canterbury Christ Church University
Runcie Court
Broomhill Road
Tunbridge Wells
Kent
TN3 0TG

Appendix O: End of Study Letter to be Sent to Ethics Panel

Dear

Project title: **Perceptions of elite athletes and coaches of mental ill-health amongst elite athletes.**

Background:

The role of an elite athlete involves high levels of unique life stressors including; pressure to consistently perform, overtraining, burnout and body perfectionism (Hanton, Fletcher, & Coughlan, 2005). Despite having protective factors such as good health, employment, support networks and the benefits of exercise (Scully, Kremer, Meade, Graham, & Dudgeon, 1998), a review of the literature suggests that elite athletes are just as likely as the general population, if not more so, to develop mental ill-health (Gulliver, Griffiths, & Mackinnon, 2014; Schaal et al., 2011). The isolating nature of elite sports means that sport coaches are well placed to recognise and support athletes experiencing these difficulties (Mazzer & Rickwood, 2015). The present investigation aimed to explore elite athlete and coaches' perceptions of the issues surrounding mental ill-health amongst elite athletes.

Method:

The study utilised two concurrent three round Delphi methods to clarify the opinion of 20 elite athletes and 16 elite coaches using online questionnaires. Ideas or qualitative comments made in the initial round were fed back to participants through the second round questionnaire, after analysis of group collective opinion, the responses from this round were used to formulate the final questionnaire which aimed to further clarify consensus and divergence of opinion around mental ill-health amongst elite athletes.

Findings:

Athletes agreed that elite athletes are more likely than the general population to develop mental ill-health, whilst coaches failed to reach a consensus. Athletes reported having personally experienced mental ill-health at a higher rate than coaches' reported having witnessed it amongst athletes. Both groups agreed the most significant factor contributing to the development of mental ill-health amongst elite athletes is the pressure they place upon themselves. They also rated elite athletes as having higher OCD tendencies than the general population and ranked OCD and anxiety two of the most prevalent mental disorders amongst elite athletes. Athletes and coaches agreed stigma surrounding mental ill-health is the biggest barrier to athletes seeking support and suggested that more open discussion and awareness about the issue was needed. Both groups felt sport psychologists and clinical psychologists would provide the most appropriate support, however, also suggested sport psychologists would not be able to offer support. Both groups felt coaches play an important role in recognising the signs and symptoms of mental ill-health amongst elite athletes, but felt they require more education around this issue.

Implications:

Findings suggest the need for further research into the presence of OCD characteristics, and how they are understood, amongst elite athletes. Elite coaches would likely benefit from training courses to increase their knowledge of mental disorders, their confidence in recognising and helping athletes experiencing these issues and reduce stigma around mental ill-health (Bapat, Jorm, & Lawrence, 2009; Pierce, Liaw, Dobell, & Anderson, 2010). Some clarity on the professional competence of sport psychologists in the UK may be required to

ensure athletes receive the most appropriate support for these issues. Whilst clinical psychologists working in this area should ensure they have a well-informed understanding of elite athletes' unique situation in order to formulate the complexity of their difficulties.

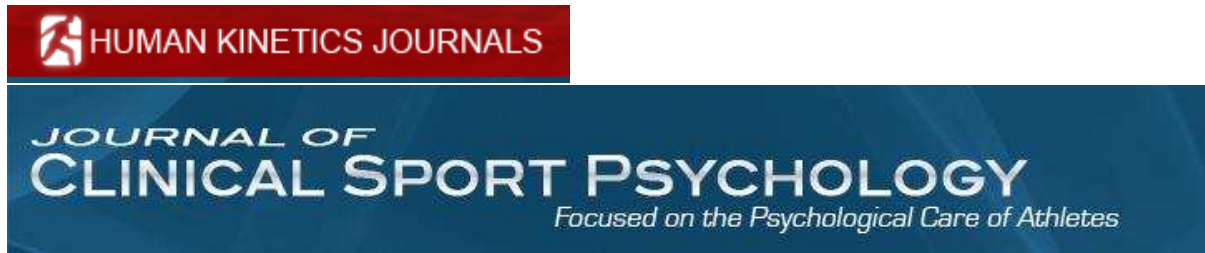
Yours sincerely

Isobelle Biggin

Trainee Clinical Psychologist
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TN3 0TG

References:

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Appendix P: Author Guidelines for the Journal “Clinical Sports Psychology”**Authorship Guidelines for JCSP**

The Journals Division at Human Kinetics adheres to the criteria for authorship as outlined by the International Committee of Medical Journal Editors*:

Each author should have participated sufficiently in the work to take public responsibility for the content. Authorship credit should be based only on substantial contributions to:

- a. Conception and design, or analysis and interpretation of data; and
- b. Drafting the article or revising it critically for important intellectual content; and
- c. Final approval of the version to be published.

Conditions a, b, and c must *all* be met.

Individuals who do not meet the above criteria may be listed in the acknowledgements section of the manuscript.

*Uniform requirements for manuscripts submitted to biomedical journals. *New England Journal of Medicine*, 1991, 324, 424–428.

Submission Guidelines for JCSP

In preparing manuscripts for publication in the *Journal of Clinical Sport Psychology (JCSP)*, authors are expected to carefully adhere to the guidelines in the Publication Manual of the APA (6th ed., 2010). All articles must be preceded by an abstract, not to exceed 150 words, typed on a separate page. Special attention should be given to the preparation and accuracy of references, and to the absence of sexist and biased language. The manuscript should be double-spaced, including the abstract, references, and any block quotations.

Original manuscripts, not previously published elsewhere or simultaneously submitted to another journal, should be submitted electronically via ScholarOne at mc.manuscriptcentral.com/hk_jcsp. An author account will need to be created by following the directions on the Manuscript Central page. Authors will be asked to submit a "blinded" version of their article and a separate cover sheet document with author names, institutional affiliations, running head, and corresponding author's contact information. No print manuscripts or e-email attachments can be accepted.

The review process is blind, with manuscripts read by at least two reviewers. The review process should take 8-12 weeks. There are no page charges to contributors.

Authors of manuscripts accepted for publication must transfer copyright to Human Kinetics, Inc.

Case Conference manuscripts are limited to 7 pages. Empirical, theoretical, and program development articles generally should not exceed 35 pages, including figures, tables, and references. They will be judged according to their contribution to knowledge, presentation of information, appropriateness of the discussion, interpretation of ideas, clarity of writing, and where appropriate methodology/design and data analysis. Authors are expected to have their raw data and descriptive statistics available throughout the editorial review process and are responsible for providing elaboration upon request.

Artwork Instructions for JCSP

Preparation of figures and tables: In figures, use black and white only, no shading or color. Resolution of digital images should be 300 dpi at full size for photos and 600 dpi for line art; color images cannot be accepted. Figures or photos should be in .jpeg or .tif files. Format tables using the “Table” function of your word processing program rather than aligning columns in text with tabs and spaces or using text boxes.

Submit a Manuscript to JCSP

Original manuscripts, not previously published elsewhere or simultaneously submitted to another journal, should be submitted electronically via ScholarOne at mc.manuscriptcentral.com/hk_jcsp. An author account will need to be created by following the directions on the Manuscript Central page. Authors will be asked to submit a blinded version of their article and a separate cover sheet document with author names, institutional affiliations, running head, and corresponding author’s contact information. No print manuscripts or e-email attachments can be accepted.

The review process is blind, with manuscripts read by at least two reviewers. The review process should take 8–12 weeks. Authors of manuscripts accepted for publication must transfer copyright to Human Kinetics, Inc.