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## Best practice recommendations for coaching gymnasts to avoid burnout and reframe performance anxiety

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The School of Medical and Health Sciences, Edith Cowan University, Australia

**BEST PRACTICE RECOMMENDATIONS FOR COACHING GYMNASTS TO  
AVOID BURNOUT AND REFRAME PERFORMANCE ANXIETY**



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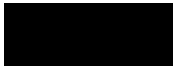
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## Thesis Abstract

Gymnastics is deemed a psychologically demanding sport, with associated risk factors of burnout and performance anxiety. To date, relatively little research has explored the specific goal and perfectionistic processes of gymnasts, despite these risks. This body of work identified the specific goal-related constructs and perfectionistic orientation of young athletes and examined how these associated with burnout and performance anxiety. It comprised of two studies with a mixed methods design. The first study aimed to systematically review literature investigating how goal-related constructs and perfectionism associate with burnout and performance anxiety in young athletes. This review focused on summer and winter Olympic sports which young athletes participate in. In summary, our main findings from the studies ( $k = 11$ ) were: (1) ego goal orientation is positively associated with performance anxiety generally, but not conclusively; (2) mastery goal orientation is negatively associated with performance anxiety generally, but not conclusively; (3) self-oriented perfectionism is positively associated with performance anxiety; (4) socially prescribed perfectionism is positively associated with performance anxiety; (5) self-oriented perfectionism is negatively associated with burnout, (6) socially prescribed perfectionism is positively associated with burnout and (7) mastery-approach goals and mastery-avoidance goals do not predict burnout, whereas ego-avoidance goals do predict burnout. The second study presented the findings from the first study to gymnastics stakeholders within a focus group ( $n = 4$ ), in order to provoke discussion leading to coaching recommendations to the leading gymnastics body in Western Australia, Gymnastics WA. A thematic analysis of the transcript from the focus group meeting was produced. In summary, the main themes were (1) improving culture; (2) verbal communication; (3) parent-coach-gymnast alignment; (4) relationship building and mentorship; (5) education and wellbeing. These findings were elaborated on and formed the basis of a written report. This body of work is of current significance to its main stakeholder GWA, who emphasised a need for coach education to support gymnast wellbeing in their 2022-2026 strategic plan. The research may be of interest to other sports organisations that place a high value on cultivating healthy mindsets in young athletes through coach training in psychoeducation. Both studies contribute to the sport psychology literature on goal constructs, perfectionism and their associations with burnout and performance anxiety.





## **Chapter 1**

### **An Introduction to the Body of Research**

## Background

The participation in sport by young people is widely regarded as a positive pursuit that can produce physical and mental health benefits. International recommendations for 60 minutes of moderate to vigorous physical activity a day for children aged 5-17 are well established (World Health Organization, 2019). Physical activity through sports participation improves cardiovascular health, develops muscle fitness and bone health and can offer further health benefits. A systematic review found multiple psychological and social health benefits were reported for children who participate in sport, such as improved self-esteem (Eime et al., 2013). Despite the multiple health benefits of sport participation, maladaptive coping strategies sometimes develop in young athletes who struggle with certain aspects of their chosen sport (Cox, 2012). Maladaptive strategies may include overthinking, self-doubt and avoidance type behaviours and these may lead to undesirable emotional responses (Jones, 2003), which in turn may lead to 'performance anxiety' or 'burnout' (Gould et al., 1996).

### *Performance anxiety*

Performance anxiety in sport can be defined as an immediate emotional state that is characterised by apprehension, fear, tension and an increase in physiological arousal, triggered by the perceived pressure to perform in an environmental or competitive situation (Cox, 2012). It is therefore a type of state anxiety, as it is transitory and situation-specific, as opposed to generalised anxiety disorder, which is enduring. Performance anxiety is usually highly undesirable for athletes, as it impacts on attention and various psychological processes are disturbed, such as executive function and information processing (Roe et al., 2019). However, some studies have found that athletes can benefit from it if it is viewed as facilitative rather than debilitating (Jones & Hanton, 2001). Excess anxiety can also produce inappropriate muscle tension, which can impact negatively on performance (Weinberg & Gould, 2015). It can create further psychological issues, such as a diminished enjoyment of the sport which can lead to avoidance-type behaviour, such as pulling out or arriving late to competitions or events (Duda & Gano-Overway, 2020). Public scrutiny, perceived coach or parental pressures, career uncertainty or dissatisfaction and injury can all precipitate or exacerbate the performance anxiety (Roe et al., 2019). Higher performance anxiety is associated with the following factors: low athletic experience, female gender and young age (Rocha & Osório, 2018). Previous

research has shown that both social support and the perception of high self-ability serve as protective mediators against performance anxiety (Abrahamsen et al., 2008).

### *Burnout*

The accepted definition of burnout in the sport setting is physical and/or emotional exhaustion, a reduced sense of accomplishment and sport devaluation or resentment, with indicators that the athlete is withdrawing from their sport (Raedeke et al., 2002; Smith et al., 2018). If an athlete believes they are not attaining their goals or performing below their capabilities, this can result in burnout (Smith et al., 2018). Research indicates that athletes who cease participation in their sport due to burnout, often experience extreme fatigue and poor health (Gomes et al., 2017). Perfectionism has been identified as an antecedent of athlete burnout (Goodger et al., 2007; Hill & Appleton, 2011). When sporting goals are tied to self-worth, a sense of threat can be heightened or exacerbated by perfectionism (Smith et al., 2018). Smith's (1986) cognitive affective model proposes how burnout develops for athletes over time, incorporating the influence of stress and a personality factor such as perfectionism: stage 1 is the perception of a situational demand (such as unrelenting high standards), followed by stage 2, which involves cognitive appraisal (such as perceiving threat); stage 3 is a physiological response (such as an anxiety response) and stage 4 is a behavioural response (such as reduced sporting accomplishment) (Smith et al., 2018). Personality factors (such as perfectionism) and motivational factors are therefore considered to be influential to burnout, according to this model.

The cognitive-affective model of athlete burnout (Smith et al., 2018) identifies the relationship between anxiety and burnout, through the shared predictor stress. Within sport psychology, a body of research has emerged demonstrating a significant correlation between burnout and performance anxiety (see Cho et al., 2019; Gustafsson et al., 2008; Singh Bawa, 2010; Vealey et al., 1998). One study reported that trait anxiety caused by chronic stress anxiety is an antecedent of burnout in athletes (Cho et al., (2019).

### *Perfectionism*

Perfectionism is a personality construct; individuals demonstrating high levels of perfectionism are characterised as striving to reach flawlessness, by setting very high expectations

(e.g., Flett & Hewitt, 2002; Frost et al., 1990; Stoeber & Otto, 2006). Perfectionism can be domain specific (Madigan, 2016; Stoeber & Madigan, 2016) and athletes can show much higher levels of perfectionism in their sport, than in other areas of their life (Dunn, et al., 2005). A model of perfectionism has been proposed with two higher-order dimensions: perfectionistic strivings and perfectionistic concerns (Stoeber & Otto, 2006). Perfectionistic strivings describe self-oriented endeavours to reach perfection, encompassing high personal standards and this dimension of perfectionism is typically considered healthy and adaptive (Gucciardi et al., 2012; Stoeber & Madigan, 2016). In contrast, perfectionistic concerns reflect a fear of making mistakes, a tendency to be overly critical in evaluations of one's performance and is considered unhealthy, maladaptive and abnormal (Gucciardi et al., 2012; Madigan, 2016). 'Adaptive perfectionism' can be defined here as indicative of psychological adjustment, such as positive affect, whereas 'maladaptive' can be defined as indicative of psychological maladjustment, such as negative affect (Rice & Preusser, 2002; Stoeber & Madigan, 2016). Perfectionist factors have different relationships with emotions, motivation and performance. Negative reactions to imperfection have been associated with high performance anxiety (Stoeber et al., 2007). Furthermore, research has indicated that perfectionistic concerns can predict burnout over time (Hill et al., 2010; Madigan et al., 2015). In contrast, perfectionistic strivings have been shown to foster unique positive relationships with self-confidence, hopes of success, approach goal orientation, performance in training competitions and lower performance anxiety (Hill & Curran, 2016; Stoeber, 2007; Stoeber 2011). The relationships that athletes experience with those who are invested in their sport can help to shed light on how an athlete responds, with both the interpersonal and intrapersonal characteristics of athlete perfectionism being considered.

Two other forms of perfectionism have been identified in the research literature: self-oriented perfectionism and socially prescribed perfectionism. Self-oriented perfectionism describes a self-generated pursuit towards perfection and is not based on the views of others. It is associated with greater optimism with regard to the likelihood of goal success and interacts with goal re-engagement to predict adaptive coping (Eddington, 2014). Socially prescribed perfectionism is based on a perception that others expect perfection from oneself and approval from others is conditional upon one demonstrating perfection (Stoeber et al., 2008). Within the field of sport psychology, socially

prescribed perfectionism can derive from perceived parental, teammate and coach pressures to be perfect (Stoeber et al., 2007). The relationships that young athletes experience with their coach, teammates and parents can evoke maladaptive perfectionism in the athlete, if there is perceived pressure or criticism from any one of these sources.

### *Achievement goals*

In order to achieve positive outcomes in sport (whether these are related to well-being, enjoyment, personal development, improved performance or winning) goal constructs often need to be in place (Weinberg & Gould, 2015). However, particular goal constructs can also lead to maladaptive behaviour and negative outcomes.

Achievement Goal Theory (AGT) (Nicholls, 1984; Nicholls, 1989) states that athletes select an achievement goal based on a desire to demonstrate competence through mastery or through performance. Athletes who commit to an ego goal may aim to win a gold medal, for example, to prove they are better than their competitors. This type of goal orientation is therefore based on social comparison. In contrast, an individual who commits to being the very best that they can be in a competitive environment, regardless of extrinsic rewards or the performance of others, has set a mastery goal. Mastery goals are typically associated with intrinsic motivation, whereas ego goals are usually associated with extrinsic motivation (Dull et al., 2015). Mastery goals are either focused on task completion or aiming to be the best one can be (Mascret et al., 2015).

Elliot and Harackiewicz (1996) proposed an approach and avoidance framework for understanding goal orientation. Approach orientation can be defined as the energy or direction of behaviour towards a positive stimulus and avoidance orientation can be defined as an energy or direction of behaviour away from negative a stimulus (Elliot, 2008). Approach goals are therefore driven by a desire for a rewarding outcome whereas resisting a threatening outcome motivates avoidance goals. These goal orientations can co-exist or exist as independent states; they can work together towards the same outcome or can clash, causing goal conflict, which in turn is associated with psychological distress (Gray et al., 2017). Athletes who set approach goals are driven by a desire for positive outcomes and positive emotions, whereas athletes who set avoidance goals are motivated

to inhibit or prevent negative or threatening outcomes and the associated negative emotional consequences (Lench and Levine, 2008).

Using both avoidance and approach goal orientations, Elliot & McGregor (2001) describes an extension of AGT resulting in four types of goals: ego-approach, ego-avoidance, mastery-approach and mastery-avoidance. This is known as the 2 x 2 achievement goal model. Athletes may initially join a sports club at a young age, through parental influence, but may continue with the sport in order to be better than others (ego-approach), to avoid an appearance of failure to others (ego-avoidance), to increase competence in gymnastics for personal satisfaction (mastery-approach) or to avoid incompetence by one's own self-imposed standards (mastery-avoidance). Some research has compared these four goal constructs. A meta-analysis (Rawsthorne & Elliot, 1999) found that ego involvement goals have a greater potential to produce anxiety than mastery goals and that ego-avoidant goals in particular increased the risk of free-choice persistence and self-reports of interest and enjoyment.

An extension of the 2 x 2 framework was developed, resulting in the 3 x 2 achievement goal model (Elliot, Murayama, & Pekrun, 2011) to account for a third construct which had emerged: "other". Other-based goals focus on an interpersonal evaluation of one's competence in relation to others (such as peers).

### *Burnout and Goals*

The association between achievement goals and burnout is well documented in the sport psychology literature (Smith et al., 2018). Research that is grounded in contemporary achievement goal frameworks suggests the manner in which young sports participants judge their competence and define success, can determine the outcome: success and development or disengagement and burnout (Isoard-Gauthier et al., 2013). Previous research has also demonstrated that mastery goals are associated with adaptive outcomes in sport (Roberts, 2012). A focus on achieving mastery goals may provide less risk of burnout in comparison to those athletes whose main goal is to beat others in competition (Ingrell et al., 2019).

### *Gymnastics*

Gymnastics is an aesthetic sport in which competitors are judged on their artistic expression and ability to perform difficult skills in an elegant and aesthetically pleasing manner, with grace and poise. Like some other aesthetic sports, such as figure skating and board diving, gymnastics requires power, strength, daring, precision and flexibility (Cogan & Vidmar, 2000). The popularity of artistic gymnastics has risen recently in Australia (AusPlay, 2019) and in many other countries, such as Great Britain (British Gymnastics, 2019). It is the 18<sup>th</sup> most popular sport in Australia, with around 580,000 gymnasts participating in at least one hour of gymnastics a week (Gymnastics Australia, 2020) and it is within the top 5 most popular sports in Australia for both males and females aged 0-4, for females aged 5-8 and for females aged 9-14 (Sport Aus, 2019). Regular participation in gymnastics classes by children under the age of 12 has recently increased to make it one of the most in-demand sports in Australia for that age group (Gymnastics Australia, 20120). Gymnastics appeals particularly to girls and 74% of the 0-14 age group are female (12.9% of all Australian girls take part in gymnastics) (AusPlay, 2019).

Gymnastics is considered to be one of the most mentally challenging of all sports (Cogan in Dosil, 2006) with multiple factors (both internal and external) that can potentially impact on the mental health of the gymnast. A number of risk factors have emerged from the literature that have indicated an impact on the well-being of young gymnasts and those competing in similar aesthetic sports such as board diving and figure skating (Ryan, 1996). These risk factors include perfectionism, performance anxiety relating to fear of failure or inferior performance, body image issues, fear of injury (or re-injury), fear of social evaluation (including perceived parenting practices) and permanent damage to the body from injury (Fink et al., 2013; Martin et al., 2008; Ryan, 1996). These in turn can lead to burnout. Perfectionism is particularly salient in achievement-oriented sports such as gymnastics. Since gymnastics expects gymnasts to give highly competent performances based on subjective judgements, striving towards perfection is a requirement in order to compete (Cogan & Vidmar, 2000). It is important to ascertain whether gymnasts are motivated by perfectionistic strivings, perfectionistic concerns or a mixture of both and what factors are influencing these perfectionistic orientations (Greblo et al., 2016).

*Recent Changes in Gymnastics*

As stated previously, there are a number of risk factors which impact on the mental wellbeing of gymnasts. Unfortunately, there have been many cases of abuse of gymnasts which have been reported, so vulnerability to abuse is a further risk factor. In 2014, three gymnasts training under USA Gymnastics (USAG) independently made abuse allegations to journalists at The Indianapolis Star newspaper (IndyStar, 2020). Allegations of sexual abuse were made against the disgraced USAG team doctor Larry Nassar, and it was later found that he had performed digital penetration of young girls and women under the guise of medical examinations. Soon, many female gymnasts came forward with sex abuse allegations. Some were as young as six-years-old when the abuse occurred. There was a reported cover-up by the president of USAG, Steve Penny, who had received allegations extending as far back as the 1990's (IndyStar, 2020). In 2015, under pressure from media exposure, USAG eventually started to take action against Nassar and finally ceased any association with him in 2016. The Netflix documentary *Athlete A* (2020) brought the matter to the public's attention. Larry Nassar was convicted as a serial child molester, with over 500 victims claiming they were abused by him. In 2017, Nassar was sentenced to life imprisonment without parole.

As well as the sex abuse scandal, further allegations of emotional and psychological abuse were made against husband-and-wife coaches Béla and Márta Károlyi. The coaches owned a ranch in Texas, which was used by USAG as a training camp for elite gymnasts. The Károlyi's were the coaches of the well-known Romanian gold medallist Nadia Comăneci and had migrated from Romania to the USA in 1981. As well as forcing gymnasts to push through fatigue and injuries, and enforcing strict diet restrictions, they gave Nassar the opportunity to take advantage of the young gymnasts and failed to report allegations of abuse (ESPN, 2020). The Károlyi's were accused of regularly beating gymnasts whilst coaching them in Romania but denied these allegations. In 2018, following the Nassar scandal, USAG terminated its contract with the Károlyi's and they no longer coach gymnasts.

In reaction to the reports of abuse from the USAG, other international gymnastics bodies began to respond to allegations of abuse in their own countries. British Gymnastics (BG) was heavily criticised in an independent review for allegations of mistreatment of gymnasts in the Whyte report (Whyte, 2020). Allegations of physical and emotional abuse surfaced, with BG criticised heavily for

failing to prevent or limit the abuse and, in some cases, condoning the abuse as necessary in the pursuit of national and international competitive success (Whyte, 2020). Meanwhile in Australia, the national governing body Gymnastics Australia commissioned a Human Rights Commission review in 2020, amid allegations of abuse from Australian gymnasts. The review found “systemic risk factors” with the sport including sexual harassment, emotional and physical abuse and neglect (Australian Human Rights Commission, 2021).

### *Federation Internationale de Gymnastique’s protective measures*

The Federation Internationale de Gymnastique (FIG) is the leading international authority for gymnastics . The FIG updated its safeguarding policies and procedures in light of international criticism. It reassured all gymnasts that they can report any allegations of abuse or harassment to the FIG, Sports Authorities or National Federations and these allegations will be acted upon in order as part of the heightened safeguarding measures.

The FIG recognises that it is important that coaches are fully equipped to support the gymnast to reach their potential in gymnastics, through ongoing coach training. However, the psychological aspects of coaching gymnastics are given little attention through the current coaching programmes in Australia, and only those gymnastics coaches training to become FIG level coaches (the highest level in gymnastics coaching) receive compulsory official psychological training from Gymnastics Australia (GA).

### *Summary*

Gymnastics is a popular sport for children in Australia but is also considered to be mentally demanding. Multiple risk factors make gymnasts susceptible to burnout and performance anxiety. Much evidence supports the view that associations exist between the predictor variables achievement goals and perfectionism and the outcome variables performance anxiety and burnout. Mastery goal orientation, approach goal orientation and a perfectionistic orientation which focuses on striving appear to predict adaptive behaviour and positive outcomes in athletes. Ego goal orientation, avoidance goal orientation and a perfectionistic orientation which focuses on concerns appear to predict maladaptive behaviour and negative outcomes in athletes. There is a current paucity of sport

psychology training for the majority of gymnastics coaches in Australia and yet gymnasts have been identified as a population that require safeguarding measures. Specifically, there is currently a lack of education about ways to protect them from the negative impacts of burnout and performance anxiety.

### Rationale and Significance

Despite a huge emphasis on gymnast wellbeing and safety from GA (2019), no guidelines currently exist in Australia with regard to how beginner, intermediate and advanced coaches can support young gymnasts to deal with the pressure of being a gymnast. There is a mental health helpline service for gymnasts and coaches provided by the Australian Institute of Sport Mental Health Referral network, but no specific psycho-educational training exists for coaches to help gymnasts dealing with maladaptive perfectionism and performance anxiety, for example.

The present body of work proposes to carry out this research under the endorsement of Gymnastics Western Australia (GWA), in order to provide evidence-based guidelines to help GWA in assisting coaches to set healthy goals with their gymnasts. The 2019-2022 strategic plan for GWA outlines their vision, which is: 'gymnastics is recognised as the foundation for movement, enriching and energising bodies for life' and the mission, which is 'gymnastics in Australia will promote our brand, develop our people and grow our sport' (Gymnastics Western Australia, 2019). 'Enriching' and 'developing' gymnasts in positive ways must incorporate a focus on their mental health, which this research aims to address.

This research will support GWA's 2022-2026 strategic plan, by: (i) supporting the development of education for coaches in understanding the influences goal and perfectionistic processes may have on performance anxiety and/or burnout; (ii) raising awareness of possible associations between goal constructs, perfectionism, performance anxiety and burnout, which will in turn assist gymnastic clubs to raise awareness of the individual needs of their gymnasts; (iii) helping to emphasise that gymnastics is a sport that promotes lifelong healthy lifestyles, by developing the capabilities of gymnastics coaches. Gymnastics is both a team and individual sport, it is popular in Australia among young people, and it is performed by all genders. With regard to findings, it therefore offers some degree of generalisability to other sports performed by young people.

## The Present Research:

### *Overall Aim*

The overall aim of this research is to identify the specific goal-related constructs and perfectionistic orientation of gymnasts and examine how these associates with burnout and performance anxiety.

### *Research Questions*

Study 1: Do specific goal-related constructs and perfectionism associate with burnout and/or performance anxiety in young competitive athletes? If so, in what ways?

Study 2: Can the evidence-based results from study 1 generate meaningful discussion in a focus group of Gymnastics Western Australia stakeholders, concluding in coaching co-designed recommendations to avoid burnout and performance anxiety in young artistic gymnasts?

### *Study Design*

This programme of work will utilise a multiple methods design. Study 1 will be a systematic review of goal-related constructs and perfectionism associated with burnout and performance anxiety among young athletes participating in competitive sport. Study 2 will be a qualitative study presenting recommendations from Study 1 to gymnasts, parents of gymnasts and coaches of gymnasts, via a Power Point presentation. A focus group will then be facilitated to consider different perspectives of the research recommendations (from parents, coaches and gymnasts). These will provide a discussion on how the results can be integrated into recommendations and will also consider the gaps in the findings.

### *Methodological Underpinnings*

A mixed methods design allows quantitative data from the systematic review to be discussed and interpreted by experts in the realm of Australian gymnastics, which will in turn generate qualitative data to inform recommendations for coaches. Since the first study will systematically review research data within youth sport without a specific focus on gymnastics, there is a need for data to be generated from participants who are actively involved in various roles, positions and levels within gymnastics. There is great value in generating qualitative data based on the lived experience

of a panel of gymnastics experts, since their insight allows a real-world application of the data. The qualitative tradition is based on interpretivism and constructivism which stem from the idealist outlook (Deshpande, 1983). Idealism is an ontological view asserting that reality depends on one's mental structure and activity (Sale et al. 2002). As a result of being socially and psychologically constructed, reality is viewed as an intersubjective creation (Guba & Lincoln, 1994). Reality is continuously recreated by its participants based on their intersubjective understanding of it (Smith, 1983). Moreover, reality has no existence prior to the moment when investigators begin its examination and ceases to exist when investigators no longer focus on it (Hellström, 2008). Study 2 will incorporate an inductive thematic analysis, so that the process of coding will occur outside of a pre-existing theoretical framework.

The principal researcher of this body of work has connections within gymnastics, as a men's gymnastics coach, men's gymnastics judge and provisionally registered psychologist who has worked closely with female gymnasts experiencing symptoms of performance anxiety. Since the research could benefit the gymnastics industry which the principal researcher is involved in, it is important to consider the possibility of vested interest in order to ensure the research is trustworthy and free from personal bias from the principal researcher. The principal researcher has an understanding of personal biases, with a perspective of being involved in this sector and will therefore use objectivity and reflexivity to ensure the participant voice is heard. The assistant researchers have no vested interest in the gymnastics industry and can provide impartiality and ensure objectivity and researcher professionalism is maintained throughout. The systematic review is replicable, ensuring validity and reliability of the results in answering the research question.

## **Chapter 2**

**Study 1: A systematic review exploring correlates between goal-related constructs, perfectionism and performance anxiety and/or burnout among young athletes**

## Abstract

Young competitive athletes can experience a number of psychological difficulties through their participation in sport. Two undesirable outcomes for young athletes are high levels of sport-related performance anxiety and burnout. Previous research has sought to investigate predictors of these, in an effort to better understand how to avoid them. Research has found an association between the psychological constructs perfectionism and achievement goals, but as of yet there has been no assimilation of the results into one review. This is the first systematic review to appraise and synthesise the research literature investigating how perfectionism and achievement goals associate with either burnout or performance anxiety among young athletes.

## Introduction

It is well established that sports participation by young people is a positive pursuit that can produce multiple physical and mental health benefits, such as wellness, endurance, fitness, reduced health problems and higher levels of physical activity (Pluhar, et al, 2019). A recent systematic review and meta-analysis concluded that sport participation during adolescence may provide a protective factor against anxiety and depression (Panza et al. 2020). Positive intrinsic motivators such as having fun, being in a team and learning new skills have been reported by young people as reasons why they engage in and commit to sport (Crane & Temple, 2014). Despite the many positive aspects of sport participation, young athletes may endure performance anxiety and/or burnout, which can lead to a decline in mental health and possibly drop-out. Burnout and/or anxiety can hamper the young competitive athlete by impacting on their enjoyment, performance and participation in their sport. For those young people who have invested much of their time at sports training centres, the stakes can be high, especially if a scholarship is conditional to good performance. Performance anxiety is a predictor of discontinuation of sport participation (Grossbard et al., 2009) and both performance anxiety and burnout can ruin or limit the career of an aspiring young athlete.

Sport performance anxiety, or competitive anxiety, is an emotional response to a real or perceived threat in a sporting context (Rocha & Osorio, 2018). For many young athletes, high levels of performance anxiety can be a major hindrance (Roe et al., 2019). The Multidimensional Theory of Competitive State Anxiety (Martens, et al., 1990) has established the existence of somatic and

cognitive anxiety dimensions. Despite these being separate constructs, they also correlate positively with each other. Somatic anxiety is a physical response to perceived threat, resulting in disturbances such as inappropriate muscle tension, tremors and a racing heart due to autonomic reactions. Cognitive anxiety is a psychological response to perceived threat, characterised by negative thoughts, inability to concentrate, worry and disrupted attention. Both somatic and cognitive anxiety can lead to avoidance-type behaviour, such as pulling out or arriving late to competitions or events (Duda & Gano-Overway, 2020).

Performance anxiety is not always considered a negative outcome. Some level of sport related performance anxiety is considered to be normal and healthy (Patel, Omar & Terry, 2010) and some athletes report an improvement in their performance due to anxiety (Jones & Hanton, 2001). However, high levels of performance anxiety can be particularly debilitating for young athletes who appear to be especially sensitive to fears of failure and negative social appraisal (Smith, Smoll & Barnett, 1995). It can therefore thwart progress in a chosen sport at a young age, and may lead to dropout. One study showed that those who drop out of organised sport have greater social and emotional difficulties than those who continue to play (Vella et al. 2015). Given the many positive factors which sport participation can provide for a young person, it is advantageous to avoid dropout by helping the athlete to find ways to cope with the negative aspects of performance anxiety, or other undesirable outcomes such as burnout.

Two meta-analyses found that performance anxiety is positively associated with young age (Rice et al. 2019; Rocha & Osorio, 2018). Rocha and Osorio (2018) report that these findings relate to various factors such as young athletes having feelings of insecurity through lack of experience, emotional dependency and less sophisticated strategies for coping with physiological responses. Another study reports several reasons why younger athletes are so susceptible to performance anxiety include having less control over their emotions, less technical-tactical mastery and less experience in stressful and adverse competitive situations that favour self-confidence and cognitive abilities (González-Hernández, et al. 2020).

Burnout is a multifaceted construct, commonly defined as an experience of reduced accomplishment, feelings of exhaustion and eventual devaluation of one's achievements (Raedeke & Smith, 2001). When resentments towards one's sport coincide with experiencing exhaustion, this may signal resignation (Raedeke et al., 2002; Smith et al., 2018). Burnout has serious consequences for well-being (Hill, et al. 2008). As with performance anxiety, burnout has both physiological and psychological components (Isoard-Gautheur, Guillet-Descas, & Duda, 2013). It is important to consider the possible factors which could make a young person vulnerable to burnout early on in their athletic career, in order for an assessment and possible intervention from the coach. Research indicates that athletes who cease participation in their sport due to burnout, often experience extreme fatigue and poor health in response to exposure to ongoing stress (Gomes et al., 2017). Stress can have an internal or external cause, or can be a mixture of both.

For a young athlete who has spent many hours in training and competing in tournaments for their chosen sport, it can be demoralising to realise the sport has become a lot less enjoyable due to the effects of burnout or performance anxiety. If this leads to disengagement from the sport, a lingering sense of unfulfilled talent may be experienced.

Smith (1986) proposed a stress-based model of burnout in sport. The cognitive affective model describes how burnout develops in athletes over time, incorporating the influence of stress and a personality factor such as perfectionism: stage 1 is the perception of a situational demand (such as unrelenting high standards), followed by stage 2, which involves cognitive appraisal (such as perceiving threat); stage 3 is a physiological response (such as an anxiety response) and stage 4 is a behavioural response (such as reduced sporting accomplishment) (Smith et al., 2018). Personality factors (such as perfectionism) and motivational factors (such as achievement goals) are therefore considered to be important precursors of burnout, according to this model.

Two consistent predictors of burnout and performance anxiety are achievement goals and perfectionism (Olsson et al. 2021; Květon, Jelínek & Burešová 2021; Nordin-Bates, Raedeke, & Madigan, 2017; Jaakkola et al. 2019). There is good justification for jointly examining how perfectionism and achievement goal orientations associate with performance anxiety and burnout,

since both predictor variables can be influenced to a greater or lesser extent by the perceived expectations of significant others and society in general. Within sport, the most prominent influences for a young athlete are the coach/es, parent/s and fellow athletes. These people can have a powerful impact on a young person's mental health, which may include goal orientations and perfectionism (Olsson et al, 2021).

Perfectionistic individuals set very high personal expectations in an effort to reach flawlessness, with an overly critical evaluation of their own performance (Flett & Hewitt, 2002; Frost et al. 1990; Stoeber & Otto, 2006). Perfectionism is usually conceptualised as multidimensional (Hewitt & Flett, 1991). Gaudreau and Thompson (2010) describe two distinct facets of perfectionism: personal standards of perfectionism and evaluative concerns about perfectionism. Personal standards of perfectionism (hereon referred to as “self-oriented perfectionism”) identifies the individual as the source of perfectionism. Evaluative concerns about perfectionism (herein referred to as “socially prescribed perfectionism”) describes trying to attain the perceived perfectionistic standards of other people (Hewitt & Flett, 1991). Self-oriented perfectionism describes a self-generated pursuit towards perfection and is therefore not based on the views of others. Socially prescribed perfectionism is based on a perception that the expectations of others are extremely high and approval from others is conditional upon demonstrating perfection based on these expectations (Stoeber et al., 2008). Whilst a much broader term “perfectionistic concerns” has been identified within the perfectionism literature, the term will be avoided here as it encompasses self-critical evaluations, excessive concern over mistakes and a fear of failing to meet the expectations of others. The more specific term “socially prescribed perfectionism” will be used instead, as it describes the perception that others demand perfection of the self (Flett et al. 2022). The socially prescribed perfectionist is aware of the expectations from significant others, or society at large, to reach perfection (Hewitt, 2020).

Research indicates that self-oriented and socially prescribed perfectionism has increased over time, so the current generation of young people are under more pressure to be perfect than ever before (Curran & Hill, 2019; Smith et al. 2019; Flett et al. 2022). Further research is needed to provide a full explanation for why this is, but researchers speculate cultural shifts have occurred where meritocracy,

competitiveness and individualism are valued highly, alongside a trend in anxious and controlling parenting (Curran & Hill, 2019). Socially prescribed perfectionism is generally associated with negative outcomes, as it has been linked to a wide range of issues including burnout (Flett et al., 2022; Hill et al., 2010). Self-oriented perfectionism is generally seen as less harmful than socially prescribed perfectionism, but can still be linked to negative outcomes such as anxiety, for example (Smith et al. 2022).

Influences from social pressures extend beyond the realm of perfectionism into the field of sport motivation. Achievement Goal Theory (AGT; Nicholls, 1989) examines the role of significant others on the mindset of the athlete. When applied to the achievement setting of sport, AGT postulates that two contrasting achievement goal orientations determine how athletes define success in achievement settings: the task state and the ego state. Task involved goals focus on selecting an achievement goal based on a desire to demonstrate competence through either mastery or through performance. An individual who commits to being the very best that they can be in a competitive environment, regardless of extrinsic rewards or the performance of others, has set a task goal. In contrast, athletes with a dispositional tendency towards an ego goal orientation may aim to win a gold medal to prove they are better than their competitors, for example. This type of goal motivation is therefore based on social comparison. Task goals are typically associated with intrinsic motivation, whereas, performance goals are usually associated with extrinsic motivation (Dull et al., 2015). Therefore, task goals are either focused on task completion or aiming to be the best one can be (Mascret et al., 2015). The research literature has extended from this basic premise to create motivational frameworks that incorporate approach or avoidance orientation. Approach goals strive towards positive outcomes and avoidance goals avoid negative ones.

Socially prescribed perfectionism and self-oriented perfectionism are separate and distinct constructs to ego and task achievement goals. However, as stated, both are influenced to a greater or lesser extent by the role of others, which is where the present study focuses. Perfectionists can aim for excellence by setting their own high standard or they can aim to reach the high expectations of others. This is less of a choice and more of a disposition. Similar motivational factors influence the direction

of achievement goals. A performance involved goal, focused on impressing and/or beating others, is based predominantly on external motivational factors. This contrasts with a mastery goal orientation, which is self-driven and intrinsic. Self-oriented perfectionism has been linked with mastery-approach goals whereas socially prescribed perfectionism has been linked with mastery-avoidance goals (Stoeber, Damian & Madigan, 2017).

Previous systematic reviews in the sport psychology field have provided some insight regarding associations with performance anxiety and burnout. A recent systematic review focused on the broad determinants of anxiety in elite athletes, such as age, gender and career dissatisfaction, but not the specific variables achievement goal orientation or perfectionism (Rice, et al. 2019). There appears to be a paucity of recent reviews examining achievement goal orientations in the field of sport psychology. One systematic review which examined correlates of achievement goal orientations in physical activity did not explain how it associated with performance anxiety or burnout (Biddle et al., 2003). A systematic review which analysed 72 articles focusing on elite athletes, reported negative correlations between burnout and self-oriented perfectionism and intrinsic motivation. In addition, positive correlations were reported between burnout and socially prescribed perfectionism and concern over mistakes (Bicalho & Costa, 2018). The study incorporated data from a large age range, including adolescents and adults (14 years - >27 years). Hill and Curran (2015) carried out a meta-analysis examining the relationships between multidimensional perfectionism and burnout, but this did not focus specifically on sport as it also included data from work and education. A meta-analytic review which examined multidimensional perfectionism in sport found perfectionistic concerns are clearly maladaptive for athletes, whereas perfectionistic strivings are complex and ambiguous (Hill, Mallinson-Howard & Jowett, 2018). Data was examined from both youth populations and older adult populations and the unique effect of age could not be completely isolated, since some studies included data from both age ranges. A review of research in sport, dance and exercise tested the tripartite model of perfectionism, incorporating both adult and youth populations (Hill, Mallinson-Howard & Jowett, 2020). The authors conclude that no dimension or subtype of perfectionism is likely to be maladaptive (or adaptive) for everyone, under all circumstances and this suggests that a thorough examination of

specific factors, such as age, may provide a deeper understanding of how perfectionism can be impacted by different conditions.

Many studies in the sports literature focus on adult populations. However, a valuable population to focus on specifically is young athletes who can be particularly vulnerable to the effects of negative psychological outcomes, due to added pressures from hormonal changes alongside academic pressures. The elevated risk of youth athletes developing performance anxiety merits a thorough examination of the research literature in this area, in conjunction with burnout, in order to examine possible predictors of these and map these relationships together. As discussed, the mental and physical health benefits for children participating in sport are well established. It is advantageous for children to continue playing a sport of their choice rather than disengage, due to the impact of performance anxiety or burnout. There has been a recent investment in youth-specific models of mental healthcare for those under 25 years (Rice et al. 2019). The authors have carried out the present study in order to appreciate the current field of knowledge and consider future directions which may help to inform subsequent youth-specific mental skills sports programs. Therefore, this systematic review aims to be the first to report and synthesise the data from the youth sport psychology literature specifically, which has investigated the relationships between the predictors achievement goal orientation or perfectionism and the stress response outcomes burnout or performance anxiety. In line with the World Health Organisation's definition of "youth" and "adolescence", studies with a sample between the ages of 10 and 24 years were identified.

## Rationale

A systematic review has been selected for study one, in order to identify, appraise and synthesise the research relating to the specific research question being asked (Boland, et al., 2017). This information can then provide evidence-based answers, which can then inform the subsequent

proposed study. Within the field of sport psychology, previous systematic reviews and meta-analyses have been conducted which have focused on associations between goal orientation and multiple outcome variables (see Harwood et al., 2015). Recommendations stated that future research should seek to understand differences between individual sports and team sports in terms of how goal orientations, such as mastery versus ego goals and approach versus avoidance goals associate with negative outcomes (Harwood et al., 2015). The present study seeks to do this. Furthermore, this study will be the first to consider how goal-related constructs relate specifically to burnout and performance anxiety in young competitive athletes, which has implications for goal setting strategies at all levels: athlete, parent, coach and sports organisations and associations. Therefore, this research will attempt to provide evidence-based recommendations on specific goal-related constructs which are less likely to result in burnout or performance anxiety.

### *Research question*

Do specific goal-related constructs and perfectionism associate with burnout and/or performance anxiety in young competitive athletes? If so, in what ways?

### *Aim*

To systematically review and evaluate the literature on goal-related constructs and perfectionism in sport psychology (all research up to 2020), examining the associations with burnout and performance anxiety among young competitive athletes. Additionally, this review aims to: (a) highlight underpinning theoretical models, (b) consider differences in outcomes between team sports and individual sports, (c) consider differences in outcomes between males and females and, if possible, (d) consider differences in outcomes between aesthetic and non-aesthetic sports participation.

## **Methods and materials**

### *Search strategy and Selection Criteria*

The search was carried out in October 2021 and the inclusion criteria for eligible studies were: (i) a participant mean age of 24 years or less, (ii) committed participation to a sport which is played

or performed at Youth Olympic events (as approved for 2026 Summer Games or 2020 Winter Games), (iii) participants enrolled in sports academies, specific sports clubs and training centres or enrolled on a specific sport training programme within their school, (iv) participation in the sport at regional competitive level as a minimum, (v) a measure of the predictor goal orientation or perfectionism, and (vi) a measure of the outcome burnout or performance anxiety. Research not published in English was included, provided an adequate English translation was provided.

This systematic review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The databases CINAHL, PsycINFO, Pub Med and SPORTDiscus were searched electronically (from earliest records until March 2021\*). These were the search terms, with Boolean operators:

(First field): Archer\* OR swim\* OR aquatics OR athlet\* OR badminton OR baseball OR softball OR basketball OR beach volleyball OR boxing OR boxer\* OR breaking OR break danc\* OR canoe\* OR kayak OR cycli\* OR div\* OR board div\* OR equestrian OR dressage OR horse rid\* OR fenc\* OR footbal\* OR futsal OR soccer OR golf\* OR gymnast\* OR handball\* OR hockey OR judo OR karate OR marathon OR run\* OR pentathl\* OR row\* OR rugby 7s OR sail\* OR shoot\* OR table tennis OR tennis OR taekwondo OR trampolin\* OR triathl\* OR volleyball OR water polo OR weightlift\* OR wrestl\* OR alpine ski\* OR ski\* OR biathl\* OR bobsleigh OR cross country ski\* curl\* OR figure skat\* ice skat\* OR ice danc\* OR ice hockey OR freestyle ski\* OR luge OR Nordic combined OR shot track OR skeleton OR ski jump\* OR snowboard\* OR speed skat\* OR surf\* OR BMX freestyle OR climb\* OR skateboard\* OR softball\* OR Olympic Combined OR track and field OR sport

AND (second field):

goal\* OR goal set\* OR goal attain\* OR achiev\* goals OR goal achievement OR perfection\* OR perfectionist\* striving OR mastery mindset OR mastery orientation OR mastery involvement OR mastery goal orientation OR task mindset OR perform\* mindset OR ego mindset OR goal progress OR goal adjust\* OR perfection\* concern\* OR goal process\* OR task orientation OR task involvement OR task goal orientation OR ego orientation OR ego involvement OR performance goal orientation OR performance orientation OR performance involvement OR performance goal orientation

AND (third field):

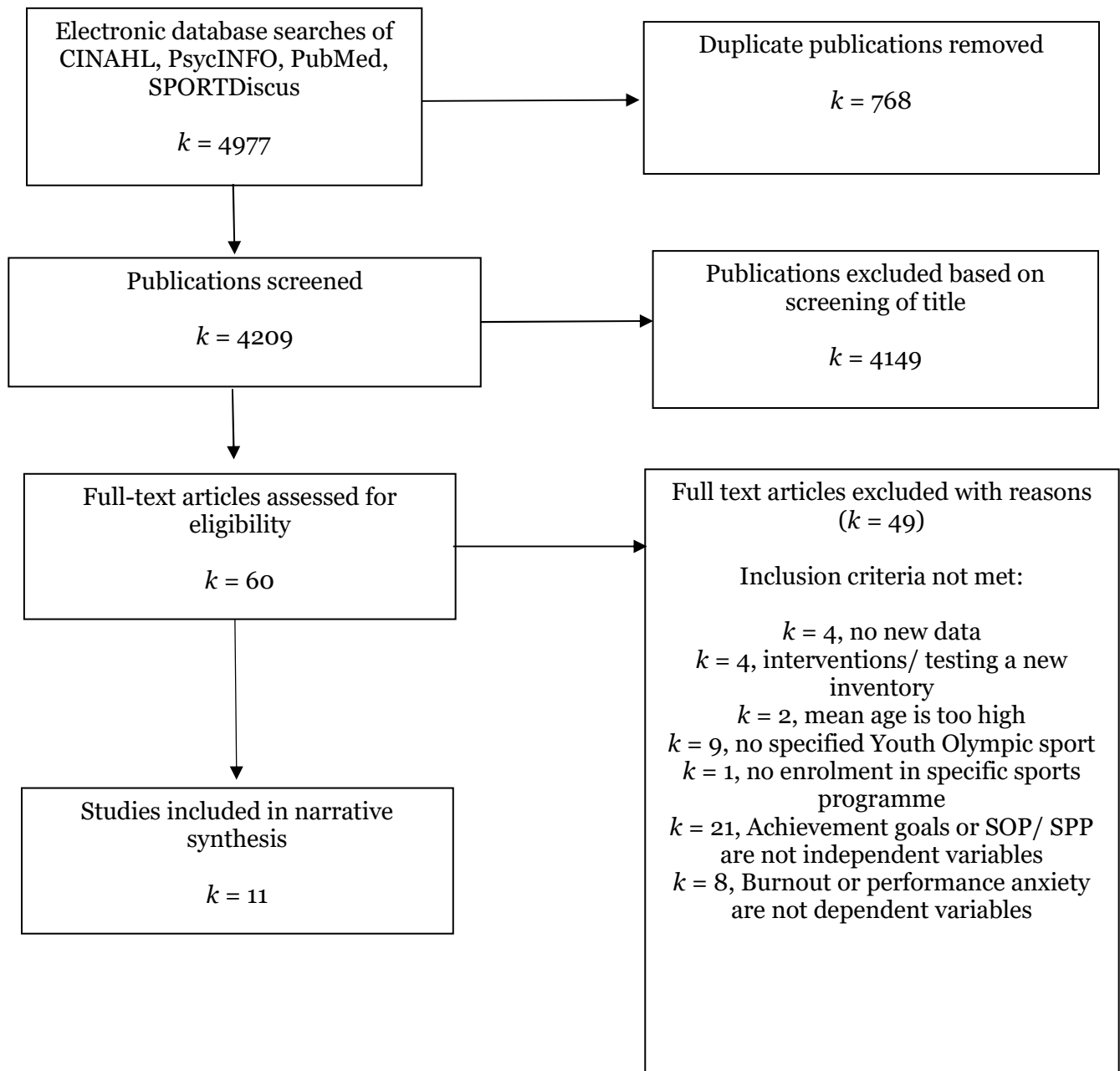
Anx\* OR stress\* OR pressure OR performance anx\* OR competit\* anx\* OR worry OR panic OR negative affect OR undesirable social behav\* OR burnout OR reduc\* accomplish\* OR exhaust\* OR sport devalu\* OR nerv\* OR depress\* OR bored\* OR low self-esteem OR state anx\* OR mood\* OR sport\* engagement OR concern OR dissatisfy\* OR frustrate\* OR demand\* OR critic\* OR disappoint\* OR tired OR worn out OR tiring.

(Fourth field): child\* OR adolescen\* OR youth OR teen\* OR young people OR boy\* OR girl\*

All Youth Olympic and Olympic sports from both the summer and winter events were included in the first field search. This included Youth Olympic sports as included in the summer 2026 games and winter 2024 games and the Olympic sports as included in the summer 2024 games and winter 2022 games.

The search identified a large body of studies ( $k = 4977$ ). After duplicates were removed, publications were screened based on their titles and abstracts ( $k = 4209$ ). The remaining full articles were then screened for eligibility by the main author and a research assistant (CA). One disagreement was negotiated by carefully reconsidering reasons for inclusion and exclusion, as outlined in Figure 1. Where articles did not specify a sport, the authors were contacted ( $k = 2$ ). We received no responses, even after follow-up, so these articles were excluded, along with other papers, which investigated sports or physical activities which did not meet our criteria of a specified Olympic or Youth Olympic sport ( $k = 9$ ). A chart of the screening process is presented in Figure 1. Data from the final research papers, which met all inclusion criteria, was entered into a spreadsheet template (Table 2). This included authors, date of publication, type of sport, level of ability, measures of goal orientation or measures of perfectionism, and measures of performance anxiety or measures of burnout.

Figure 1. Study selection



## Risk of bias

The Joanna Briggs Critical Appraisal Checklist for Analytical Cross-Sectional Studies (Appendix C) was used as the quality assessment tool to evaluate the final publications included in the review. The author and a research assistant (CA) evaluated the papers independently for quality control and bias. Both researchers agreed with the assessment of quality. The risk of bias is reported in Table 1. In line with previous studies, we adapted the tool for our particular area of investigation. We interpreted “condition” in question 4 (‘Were objective, standard criteria used for measurement of the condition?’) to be the constructs we were measuring (anxiety and burnout). Since these constructs were self-reported through questionnaires, none were measured objectively. One paper did not meet all criteria for quality assessment but we decided to include it nonetheless and provide an assessment of it in the discussion section. We found some papers ( $k = 3$ ) did not adequately define inclusion criteria for their sample. For example, we found a sample of youth basketball players were selected for one study, with no justification for the selection of this specific sport. There was justification however in selecting college students and reporting the results of males and females separately. With this paper, as with others, we took a liberal approach towards the appraisal, since much sport psychology literature uses samples from specific sports without any justification. We also found two papers did not report data screening or potential confounds. Confounders such as large age range, gender and playing experience were not stated and will be considered in the discussion section of this review.

Overall, 11 papers were identified for inclusion in the review (Table 3). All studies employed a cross-sectional study design. Where a longitudinal study design was also incorporated ( $k = 2$ ), only baseline data was reported in the review. There was considerable heterogeneity in the measures of perfectionism, goal orientation and performance anxiety, as well as heterogeneity in study design, and sample characteristics over the 11 studies. As the aggregation of effect sizes was limited by high heterogeneity, a metaanalysis was not conducted. We therefore reported the synthesised results narratively. Sample sizes in individual studies ranged from  $n = 106$  to  $n = 352$ . Five studies used data from both male and female subjects. Some studies used male subjects only ( $k = 4$ ) and one study

used a female sample. One study did not report the sex of the participants in their sample. The age range of the participants in all studies was 9 – 24 years.

Table 1. Quality assessment

	Were the criteria for inclusion in the sample clearly defined?	Were the study subjects and the setting described in detail?	Was the exposure measured in a valid and reliable way?	Were objective, standard criteria used for measurement of the condition?	Were confounding factors identified?	Were strategies to deal with confounding factors stated?	Were the outcomes measured in a valid and reliable way?	Was appropriate statistical analysis used?	Overall appraisal
Appleton (2012)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Include
Donachie, et al. (2018)	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Include
Donachie, et al. (2019)	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Include
Grossbard (2007)	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Include
Hill and Appleton (2011)	Yes	Yes	Yes	No	No	No	Yes	Yes	Include
Hill, et al. (2008)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Include
Isoard-Gauthier et al. (2013)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Include
Li and Chi (2007)	Yes	Yes	Yes	No	No	No	Yes	Yes	Include
Smith (2018)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Include
Vealey (1988)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Include
Voight (2000)	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Include

Table 2. Study characteristics

Author (year)	Sample	Sport	Country, region	Level of competition	Measure of goal orientation EGO/TASK	Measure of perfectionism SOP/SPP	Measure of performance anxiety	Measure of burnout
Appleton & Hill (2012)	231 athletes (males = 204, females = 27) M age = 16.92, SD = 2.63)	Soccer and athletics	UK	Football and athletics academies	<i>Not applicable</i>	Child and adolescent Perfectionism Scale (CAPS) (Flett et al. 2001)	<i>Not applicable</i>	Athlete burnout questionnaire (ABQ) Raedeke and Smith, 2009
Donachie, et al. (2018)	206 athletes (male = 78, female = 128) M age = 15.53 years, SD = 1.93, range = 11-19 years)	Soccer	UK	Sports clubs, sports academies and national teams. All “high level youth footballers”	<i>N/A</i>	Child and adolescent perfectionism scale (CAPS) (Flett et al. 2016)	Sport emotion questionnaire (SEQ) (Jones et al. 2005)	<i>N/A</i>
Donachie, et al. (2019)	352 athletes M age = 14.03 (SD=2.30, range = 9 – 19 years) Sex not reported	Soccer	UK	Football academies, national squads and football clubs	<i>N/A</i>	Child and adolescent perfectionism scale (CAPS) (Flett et al. 1997)	Sport emotion questionnaire (SEQ) (Jones et al. 2005)  Competitive state anxiety inventory (CSAI-2)	<i>N/A</i>
Grossbard et al. (2007)	106 male and 75 female athletes aged 10 – 14, M age 12.1 years, SD = 1.3	Basketball	USA	Community centre programme	Perception of Success Questionnaire (POSQ) (Roberts et al. 1998)	<i>N/A</i>	Sport Anxiety Scale-2 (SAS-2) (Smith et al. 2007)	<i>N/A</i>
Hill & Appleton (2011)	202 male athletes, M age = 18.8 years, SD = 2.9 years, range = 16 – 24)	Rugby	UK	Professional and semi-professional rugby union clubs	<i>N/A</i>	Multidimensional Perfectionism Scale (MPS) Hewitt and Flett (1991)	<i>N/A</i>	Athlete burnout questionnaire ABQ (Raedeke and Smith, 2001)
Hill, et al. (2008)	151 male youth M age = 14.4 years, SD = 2.4	Soccer	UK	Centres of excellence	<i>N/A</i>	Multidimensional Perfectionism Scale (MPS)	<i>N/A</i>	Athlete Burnout Questionnaire (ABQ)

	years, range = 10-18 years)							
Isoard-Gauthier, et al. (2013)	152 males, 157 females, M age = 15.4 years, SD = 2.4)	Handball	France	Elite training centre	Achievement Goals Questionnaire (Conroy, et al., 2003); Approach and Avoidance Questionnaire for Sport and Physical Education Settings (AAQSPE, Schiano-Lomoriello et al. 2005)	N/A	N/A	Athlete Burnout Questionnaire (ABQ)
Li & Chi (2007)	109 males, M age = 16.2 years, SD = 1.5)	Handball	Taiwan	National level high school finalists	Task and Ego Orientation in Sport Questionnaire (TEOSQ) (Duda & Nicholls, 1992).	N/A	Modified version of the Competitive State Anxiety Inventory-2 (Martens et al. 1990) (Chinese translation)	N/A
Smith, et al. (2018)	162 male athletes aged M = 16.15 years (SD = 1.84, range = 14 – 21)	Soccer	UK	Professional soccer academies	N/A	Multidimensional Perfectionism Scale brief version (MPS; Cox et al., 2002)	N/A	Athlete Burnout Questionnaire (ABQ) Raedeke and Smith, 2001
Vealey, et al. (1988)	106 aged 13 – 18 M=15.04 years; 95 female and 11 male	Figure skating	USA	Competitors preliminary, juvenile, intermediate, novice or junior levels. (Elite excluded)	Achievement orientation inventory (AOI) Maehr & Nicholls (1980)	N/A	Competitive state anxiety inventory for children (CSAI-C)	N/A
Voight, et al. (2000)	196 females aged 13 – 18 M=15.72 years (Mexican-American)	Volleyball	USA	United States Olympic Committee youth sport training program (1 year).	The task and ego orientation in sport questionnaire (TEOSQ; Duda, 1989)	N/A	The Sport Anxiety Scale (SAS; Smith, Smoll & Schutz, 1990)	N/A

## Results

Most of the studies focused on specific team sports (soccer  $k = 4$ ; handball  $k = 2$ ; rugby  $k = 1$ ; basketball  $k = 1$ ; volleyball  $k = 1$ ). One study focused on an individual aesthetic sport (figure skating  $k = 1$ ). One study focused on both soccer and athletics.

Most studies were carried out in the UK ( $k = 6$ ), followed by the USA ( $k = 3$ ); France ( $k = 1$ ) and Taiwan ( $k = 1$ ). Perfectionism was measured as an independent variable in studies investigating SOP and SPP ( $k = 6$ ). Of these studies, some examined the relationship with performance anxiety ( $k = 2$ ) and others investigated the relationship with burnout ( $k = 4$ ). Goal orientation was measured as a predictor variable in the remaining studies, examining the relationship with performance anxiety ( $k = 4$ ), and burnout ( $k = 1$ ).

To avoid confusion for the reader, we followed previous reviews (e.g. Stoeber, Damian & Madigan, 2017) and did not detail what specific subscales the reviewed studies employed, since a range of measures were used for perfectionism, achievement goals and performance anxiety. Further information regarding the inventories can be found in Appendix D. There was only one measure of burnout in this review: the Athlete Burnout Questionnaire.

The terms mastery orientation or mastery goals were used instead of task orientation or task goals across all studies which examine achievement goals to ensure consistency and aid interpretation for the reader.

Out of the four studies reporting the associations between achievement goals and performance anxiety, two indicated a significant positive correlation between ego state and performance anxiety. Grossbard (2007) reported this association in both male athletes ( $r = 0.21$ ,  $p < 0.05$ ) and female athletes ( $r = 0.41$ ,  $p < 0.01$ ,  $n = 75$ ); and Voight et al. (2000) also reported this significant positive association in their all-female sample with all three sub-scales of the Sport Anxiety Scale (ego orientation and worry/concern:  $r = 0.31$ ,  $p < 0.01$ ; concentration disruption:  $r = 0.23$ ,  $p < 0.01$ ; and somatic anxiety  $r = 0.18$ ,  $p < 0.05$ ). The other two studies indicated non-significant correlations: one in a positive direction from a sample consisting of 90% females ( $r = 0.02$ ,  $p > 0.05$ ) (Vealey, 1988) and one in a negative direction with an all-male sample, measuring both somatic and cognitive anxiety

Table 3. Associations between goal orientation or perfectionism and performance anxiety or burnout.

Author (year)	Goal orientation and performance anxiety	Goal orientation and burnout	Perfectionism and performance anxiety	Perfectionism and burnout
Appleton and Hill (2012)				<p>Negative associations of self-oriented perfectionism and all three components of burnout: reduced accomplishment (<math>r = -0.21, p &lt; 0.05</math>), exhaustion (<math>r = -0.03, p &gt; 0.05</math>, non-significant) and devaluation (<math>r = -0.26, p &lt; 0.05</math>)</p> <p>Positive associations were reported between socially prescribed perfectionism and all three components of burnout: reduced accomplishment (<math>r = 0.20, p &lt; 0.01</math>), exhaustion (<math>r = 0.29, p &lt; 0.01</math>) and devaluation (<math>r = 0.12, p &gt; 0.05</math> nonsignificant).</p>
Donachie, et al. (2018)			Self-oriented perfectionism displayed a significant positive correlation to anxiety ( $r = 0.15, p < 0.05$ ) and socially prescribed perfectionism demonstrated a small non-significant positive correlation to anxiety ( $r = 0.04, p > 0.05$ ).	
Donachie, et al. (2019)			<p><i>Time point 1 results reported:</i> Self-oriented perfectionism demonstrated significant positive correlations with all facets of anxiety: pre-competition anxiety: (<math>r = 0.20, p &lt; 0.01</math>), cognitive anxiety (<math>r = 0.32, p &lt; 0.01</math>) and somatic anxiety: (<math>r = 0.16, p &lt; 0.01</math>).</p> <p>Socially prescribed perfectionism displayed significant positive correlations with all facets of anxiety: pre-competition anxiety: (<math>r = 0.30, p &lt; 0.01</math>), cognitive anxiety: (<math>r = 0.32, p &lt; 0.01</math>) and somatic anxiety: (<math>r = 0.30, p &lt; 0.01</math>).</p>	
Grossbard et al. (2007)	Ego orientation was positively correlated with competitive anxiety in males ( $r = 0.21, p < 0.05$ ) and females ( $r = .41, p < 0.01$ ). Mastery orientation was negatively associated with competitive anxiety in males ( $r = -0.28, p < 0.01$ ) but there was			

	<p>no significant correlation with females (<math>r = -0.19, p &gt; 0.05</math>).</p> <p>(The predictors social desirability and perceived competence were also entered into the model).</p> <p>Somatic anxiety, concentration disruption and worry are not reported here, but all follow the same direction.</p>			
Hill and Appleton (2011)				<p>Self-oriented perfectionism was negatively associated with all facets of burnout: reduced sense of athletic accomplishment (<math>r = -0.12, p &gt; 0.05</math>), emotional and physical exhaustion (<math>r = -0.15, p &lt; 0.05</math>) and sport devaluation (<math>r = -0.45, p &lt; 0.01</math>).</p> <p>Socially prescribed perfectionism was positively associated with all facets of burnout: reduced sense of athletic accomplishment (<math>r = 0.35, p &lt; 0.01</math>); emotional and physical exhaustion (<math>r = 0.30, p &lt; 0.01</math>) but did not reach significance with sport devaluation (<math>r = 0.14, p &gt; 0.05</math>).</p>
Hill, et al. (2008)				<p>Self-oriented perfectionism displayed a significant negative relationship with all dimensions of burnout: reduced sense of accomplishment (<math>r = -0.39, p &lt; 0.01</math>, emotional and physical exhaustion (<math>r = -0.25, p &lt; 0.01</math>) and devaluation (<math>r = -0.42, p &lt; 0.01</math>).</p> <p>Socially prescribed perfectionism displayed a significant positive relationship with all dimensions: reduced sense of accomplishment (<math>r = 0.46, p &lt; 0.01</math>), emotional/physical exhaustion (<math>r = 0.41, p &lt; 0.01</math>) and devaluation (<math>r = 0.40, p &lt; 0.01</math>).</p>
Isoard-Gauthier, et al. (2013)		<p><i>Time point 1 results reported:</i></p> <p>Mastery-approach displayed a significant negative relationship with two dimensions of burnout: reduced accomplishment (<math>r = -0.30, p &lt; .05</math>, sport devaluation <math>r = -0.37, p &lt; .05</math>, and non-</p>		

		<p>significant relationship with exhaustion, <math>r = 0.02, p &gt; .05</math>).</p> <p>Mastery-avoidance indicated a non-significant negative relationship with all dimensions of burnout: reduced accomplishment (<math>r = -0.03, p &gt; .05</math>, exhaustion (<math>r = -0.03, p &gt; .05</math>) sport devaluation (<math>r = -0.10, p &gt; .05</math>).</p> <p>Ego-approach indicated a significantly negative relationship with two aspects of burnout: reduced accomplishment (<math>r = -0.20, p &lt; .05</math>; sport devaluation (<math>r = 0.11, p &lt; .05</math>, and a non-significant negative relationship with exhaustion (<math>r = -0.08, p &gt; .05</math>).</p> <p>Ego-avoidance indicated a significantly positive relationship with two dimensions of burnout: reduced accomplishment (<math>r = 0.36, p &lt; .05</math>; sport devaluation (<math>r = 0.12, p &lt; .05</math>) and a non-significant positive relationship with exhaustion (<math>r = 0.07, p &gt; 0.05</math>).</p>		
Li and Chi (2007)	<p>No significant main effect of goal orientation on intensity and direction of symptoms of precompetitive anxiety. Ego and somatic anxiety (<math>r = -0.06, p &gt; 0.05</math>); mastery and somatic anxiety (<math>r = 0.04, p &gt; 0.05</math>); ego and cognitive anxiety (<math>r = -0.06, p &gt; 0.05</math>); mastery and cognitive anxiety (<math>r = 0.17, p &gt; 0.05</math>).</p> <p><i>Correlations reported before being entered into a hierarchical regression model.</i></p>			
Smith (2018)				<p><i>Time point 1 results reported:</i> self-oriented perfectionism displayed a significant negative relationship with all aspects of burnout: reduced accomplishment (<math>r = -0.25, p &lt; 0.01</math>), emotional and physical exhaustion (<math>r = -0.32, p &lt; 0.01</math>) and devaluation (<math>r = -0.40, p &lt; 0.01</math>).</p> <p>Socially prescribed perfectionism displayed a significant positive relationship with two aspects of burnout: reduced accomplishment (<math>r = 0.27, p &lt; 0.01</math>) and physical and emotional exhaustion</p>

				( $r = 0.24$ , $p < 0.01$ ). Socially prescribed perfectionism displayed a small non-significant positive relationship with devaluation ( $r = 0.16$ , $p > 0.05$ ).
Vealey (1988)	A non-significant positive correlation was found between ego orientation and anxiety; ( $r = 0.02$ , $p > 0.05$ ). A small, significant negative correlation was found between mastery orientation and anxiety: ( $r = -0.24$ , $p < 0.05$ ).			
Voight, Callaghan & Ryska (2000)	Significant negative relationships were reported between mastery orientation and worry/concern ( $r = -0.41$ , $p < 0.001$ ), concentration disruption ( $r = -0.29$ , $p < 0.01$ ) and somatic anxiety ( $r = -0.23$ , $p < 0.01$ ). Significant positive relationships were reported between ego orientation and worry/concern ( $r = 0.31$ , $p < 0.01$ ), concentration disruption ( $r = 0.23$ , $p < 0.01$ ) and somatic anxiety ( $r = 0.18$ , $p < 0.05$ ).			

(ego orientation and somatic anxiety:  $r = -0.06, p > 0.05$ ; ego orientation and cognitive anxiety:  $r = -0.06, p > 0.05$ ) (Li & Chi, 2007).

The study which measured associations between goal orientation and burnout indicated a significant negative association between mastery-approach goals and two dimensions of burnout: reduced accomplishment ( $r = -0.30, p < .05$ ) and sport devaluation, ( $r = -0.37, p < .05$ ), and a non-significant relationship with exhaustion ( $r = 0.02, p > .05$ ). It reported a non-significant negative relationship with all dimensions of burnout: reduced accomplishment ( $r = -0.03, p > .05$ , exhaustion ( $r = -0.03, p > .05$ ) and sport devaluation ( $r = -0.10, p > .05$ ). Ego-approach indicated a significantly negatively relationship with two aspects of burnout: reduced accomplishment ( $r = -0.20, p < .05$ ) and sport devaluation ( $r = 0.11, p < .05$ ) and a non-significant relationship with exhaustion ( $r = -0.08, p > .05$ ). Ego-avoidance goals were the only significantly positive predictor of burnout between two dimensions of burnout: reduced accomplishment ( $r = 0.36, p < .05$ ) and sport devaluation ( $r = 0.12, p < .05$ ) as well as a non-significant positive relationship with exhaustion ( $r = 0.07, p > .05$ ).

Mastery oriented goals were negatively associated with performance anxiety in three studies. This reached significance in the following studies: Grossbard; 2007 male sample ( $r = -0.28, p < 0.01$ ); Voight et al. (2000) in their all-female sample: mastery orientation and worry/concern ( $r = -0.41, p < 0.001$ ), concentration disruption ( $r = -0.29, p < 0.01$ ) and somatic anxiety ( $r = -0.23, p < 0.01$ ); and Vealey (1988) ( $r = -0.24, p < 0.05$ ). Li and Chi (2007) reported non-significant positive associations for mastery orientation and somatic anxiety ( $r = 0.04, p > 0.05$ ) and for mastery orientation and cognitive anxiety ( $r = 0.17, p > 0.05$ ).

Two studies measured the associations between perfectionism and performance anxiety. Donachie et al. (2018) reported that self-oriented perfectionism was positively associated with anxiety ( $r = 0.15, p < 0.05$ ). Donachie et al. (2019) found that all three subscales of the Sport Emotion Questionnaire were significantly positively associated with self-oriented perfectionism (see Table 3).

Socially prescribed perfectionism indicated a small non-significant positive association with performance anxiety in one study (Donachie et al., 2018) and displayed significant positive correlations with all facets of performance anxiety in another study: Donachie, 2019 (see Table 3).

Self-oriented perfectionism was negatively associated with burnout in all four studies that investigated these correlations. The association reached significance with all three subscales of the Athlete Burnout Questionnaire in six of these studies: Hill & Appleton (2011); Hill et al. (2008); and Smith (2018). Appleton & Hill (2012) reported a significant negative association between self-oriented perfectionism and two of the three subscales of the ABQ: reduced accomplishment ( $r = -0.21, p < 0.05$ ) and devaluation ( $r = -0.26, p < 0.05$ ). Self-oriented perfectionism and exhaustion indicated a non-significant negative correlation ( $r = -0.03, p > 0.05$ ) in this study.

Positive associations between socially prescribed perfectionism or perfectionistic concerns and burnout were reported in six of the seven studies. All four studies displayed significant positive correlations with all three facets of the ABQ or reported an overall significant positive correlation: Appleton & Hill (2012); Hill & Appleton (2011); Hill et al. (2008); and Smith (2018).

Only one aesthetic sport appeared in the systematic review (figure skating), so it was not possible to discuss differences in the findings between aesthetic and non-aesthetic sports here.

One study reported the correlation between anxiety and ego orientation was significantly higher in females than males: ( $r = 0.21, p < 0.05$ ) and females ( $r = .41, p < 0.01$ ) (Grossbard et al. 2007).

## Discussion

The present review aimed to synthesise the empirical youth sport literature focusing on the two predictors perfectionism and achievement goals and their associations with burnout or performance anxiety. To our knowledge, it is the first systematic review to investigate these associations within the youth sport literature. We have also considered the shared intrinsic versus extrinsic motivations of both perfectionism and achievement goal orientations, based on previous findings indicating self-oriented perfectionism is linked with mastery-approach goals as an intrinsic mental entity (Stoeber et al., 2017). Likewise, both socially prescribed perfectionism and ego achievement goals are linked as both seek validation from others, indicating an extrinsic orientation.

Two of the findings indicate a degree of consensus. However, due to one outlier, the evidence as a whole is inconclusive. We have conveyed the overall trend in the association between variables and

emphasised this conclusion is not definite through the following wording: “generally, but not conclusively”.

In summary, our main findings were: (1) ego goal orientation is positively associated with performance anxiety generally, but not conclusively; (2) mastery goal orientation is negatively associated with performance anxiety generally, but not conclusively; (3) self-oriented perfectionism is positively associated with performance anxiety; (4) socially prescribed perfectionism is positively associated with performance anxiety; (5) self-oriented perfectionism is negatively associated with burnout, (6) socially prescribed perfectionism is positively associated with burnout and (7) mastery-achievement goals and ego-achievement goals are not associated with burnout, whereas ego-avoidance goals are associated with burnout.

#### *Achievement goals and performance anxiety:*

This review supports previous research which has indicated that mastery goals are less likely to be associated with performance anxiety than ego goals, and ego goals predict performance anxiety. These findings were replicated in three out of the four studies which examined the relationship between achievement goals and performance anxiety. One study reported no significant main effect between the predictor variables (ego and mastery goals) and performance anxiety (Li & Chi, 2007). In examining the differences between the four studies, this is the only study which took place in an Asian country. The other three studies were conducted in the USA. It is important to consider cross-cultural findings such as these and whether collectivism can contradict the Western literature (King, 2016). Collectivist cultures remove an emphasis on the individual, so concepts such as “mastery” may not even be a consideration for young athletes, who are taught to please the coach, the team and represent their geographical area competitively.

#### *Perfectionism and performance anxiety:*

The findings support previous research within the perfectionism literature which has found both self-oriented perfectionism and socially prescribed perfectionism positively associate with performance anxiety. The two studies which measured this association were both conducted by the same authors in the UK using samples of youth soccer players. The studies reported that the lead up

to competitions were an important consideration, in that participants with higher levels of perfectionism exhibited higher levels of anxiety than participants with lower levels of perfectionism. A finding from the 2018 study that was not reported in the systematic review was socially prescribed perfectionism predicted anger, whereas self-oriented perfectionism predicted excitement. Performance anxiety need not always be maladaptive and reframing it as “excitement” may be a strategy that could be harnessed by coaches to help athletes see it as a positive.

### *Perfectionism and burnout*

To avoid burnout, a self-oriented perfectionistic style is preferential over a socially prescribed perfectionistic style. The perceived expectations of significant others and society in general has culminated in a preoccupation with evaluative concerns for many young people. This review supports previous research which has highlighted socially prescribed perfectionism as a predictor of burnout (Hill et al. 2010; Madigan et al. 2015). Since perfectionistic style is more of a disposition than a choice, it is difficult for a coach or any other well-intentioned person to encourage the young athlete to adopt a self-oriented perfectionism instead, although such interventions could be considered in the future. Again, culture needs to be a consideration since the Western concept of the individual is not shared by collectivist cultures. Further research is required in this area to examine inconsistencies between collectivist and individualist cultures.

### *Achievement goals and burnout:*

The review partially supports previous research indicating mastery-approach goals are significantly unlikely to predict burnout, whereas ego-avoidance goals are significantly likely to predict burnout. However, it also indicates ego-approach goals have a significantly negative relationship with burnout and mastery-avoidance goals show no significant correlation with burnout. The findings therefore indicate approach-avoidance goals are better predictors of burnout than mastery-ego goals. The one study in this review which measured this association (Isoard-Gautheur et al. 2013) also considered the mediating variable “feelings of competence” which impacted on the correlations.

A number of theoretical models were underpinned by this research, including Achievement Goal Theory (Nicholls, 1984, Nicholls, 1989) and the 2 x 2 extension (Elliot & McGregor, 2001), the multidimensional model of burnout (Raedeke, 1997; Raedeke & Smith, 2009) and the self-oriented/ socially prescribed model of perfectionism (Gaudreau & Thompson, 2010).

## Limitations

Limitations of the review include the large range of standardised psychometric tools which were used to measure the four variables perfectionism, achievement goals, performance anxiety and burnout (appendix D). However, there was considerable overlap in terms of assessment for each variable and the similarities between the measures for each of the four variables were considered greater than the minor differences.

The sample of studies was very small and made it difficult to draw firm conclusions. Rather, the review provides a very general overview from a select sample. We also found some papers did not report data screening or potential confounds ( $k = 4$ ). Confounders such as large age range, biological sex and playing experience were not stated here. The omissions are important, as female biological sex and short playing experience are predictors of performance anxiety (Rocha & Osório, 2018).

There was a paucity of longitudinal studies in this review, which was of little consequence because only baseline data was used. However, data from a second point in time could be useful to consider, as it may indicate how the changing conditions of the athletic season influence the variables. This is a point for future research.

Only one piece of research focused on the relationship between goal orientation and burnout. This meant it was not possible to compare the findings to any other research.

The review did not incorporate an examination of coach variables. Upon reflection, it would have been useful to consider these, particularly as the body of work aims to make recommendations regarding coach education and coaching styles. Coaching environments can be highly demotivating but this scoping review did not examine coach mastery or coach ego climates, which is a limitation.

The review has highlighted the importance of sport participation during adolescence, as a possible protective factor against anxiety and depression, and how it is therefore advantageous to try to prevent

young athletes from dropping out. It is demoralising for a young athlete to realise their sport is less enjoyable. Performance anxiety and burnout can both lead to a decline in mental health and drop-out.

The cognitive-affective model describes how burnout develops in athletes over time, incorporating the influence of stress and a personality factor such as perfectionism. Coaches may find it valuable therefore, to recognise perfectionism in their athletes and find ways to avoid burnout. This is a consideration for future research.

The role of mediating variables such as motivational climate were not examined. Many of the studies did not simply test correlations between the predictor variables perfection orientation and goal orientation and the dependent variables burnout and performance anxiety, but added mediating factors and controls within their analyses. However, it was possible to report these simple correlations before mediating variables were added.

The research incorporated cross-sectional studies from the UK, USA, France and Taiwan. These are considered individualist cultures. A comparison with collectivist cultures was not explored, which limits the applicability of the findings from the systematic review. Findings from cross-sectional studies focusing on the differences between collectivist and individualist cultures indicated differing goal orientations and performance anxiety outcomes between the two cultures (Asghar, et al. 2013) which this study did not explore.

## Conclusion

This review reflects the findings from previous literature which indicates that mastery goal orientation is preferential to ego goal orientation in the competitive sports arena for young athletes wishing to avoid performance anxiety. It also supports previous research which has found no preference of perfectionistic style as a predictor of performance anxiety; both forms of perfectionism positively associated with performance anxiety. This has implications for coaches of young people. However, as noted, some young athletes thrive when experiencing performance anxiety, so coaches are urged to monitor how individuals handle it in competitive situations. Performance anxiety can be measured using a standardised instrument such as the SAS (see appendix D for further details). This

could be administered before and after each performance. An extra question could be added in the post-assessment phase which asks the young athlete “Do you believe any performance anxiety you experienced helped you, hindered you, or made no difference to your performance?” Unlike performance anxiety, burnout is always a negative outcome, and coaches are urged to help young athletes focus on fostering an internalised and self-generated form of perfectionism, rather than trying to attain perfection in order to please significant others. Future research could examine the relationship between goal orientation and burnout. The review also highlights a paucity of longitudinal studies in this field, which may provide further insight in how changes in the athletic season influence performance anxiety and burnout levels. Finally, the review highlights a gap in the research regarding the relationship between goal orientation and burnout and further research is needed here.

## **Chapter 3**

**Study 2: A presentation of findings from study 1 to gymnastics stakeholders, in the form of a focus group.**

## Introduction

A paucity of empirical evidence exploring factors that impact on the mental health of gymnasts has been identified. Findings from Study 1 provide empirical evidence of correlations between the predictor variables perfectionism and goal orientation and the dependent variables performance anxiety and burnout. These are deemed useful as they can form the basis of recommendations to GWA, who have expressed an interest in obtaining information which could advance coach education focusing on the wellbeing of gymnasts. It was considered important to share the results of Study 1 with a panel of selected GWA stakeholders with the objective of allowing them to consider whether the findings related to their lived experience with gymnasts. The epistemological position of Study 2 emphasises a value in the perception of stakeholders and how they make sense of the data, relate to it and are able to explore it through the sharing of ideas, values, and anecdotal experiences in the gym and competing arena. In order to facilitate this, a qualitative research methodology was deemed the most appropriate way to extract meaning from the findings of Study 1 and use them alongside the professional insight of stakeholders to lead to practical solutions.

## Rationale

The popularity of gymnastics for children and adolescents, both within Australia and world-wide is well established. Gymnastics is considered to be one of the most mentally challenging of all sports (Cogan in Dosil, 2006) with the associated risk factors of burnout and performance anxiety. Relatively little research has explored the specific goal and perfectionistic processes of gymnasts, despite these risks, which is why a systematic review of all youth Olympic sports was undertaken. Results from Study 1 provide interesting and useful findings which could be incorporated into gymnastics classes to help gymnasts establish healthy ways to think about their sport in order to avoid negative mental health outcomes and to enjoy their sport more fully. The Fédération Internationale de Gymnastique (FIG) is the governing body for gymnastics worldwide and recognises the importance for coaches to be fully equipped to support the gymnast to reach their potential in gymnastics. This

includes ensuring that they are in the sport for the right reasons (healthy goals) as opposed to unhealthy reasons (solely to please parents, for example). However, the psychological aspects of coaching gymnastics are given little attention through the current FIG coaching programmes. Currently in Australia, only those gymnastics coaches who are training to become FIG level coaches (the highest level in gymnastics coaching) receive compulsory official psychological training from Gymnastics Australia (GA). Sharing the findings from Study 1 with a focus group of gymnastics stakeholders could generate discussion on the best ways to equip coaches with empirically based psychoeducation which coaches can convey to their gymnasts. The discussion can then be analysed thematically, in order to extract the essential meaning and find common experiences, concerns, observations, recommendations within the focus group's dialogue.

### *Aims*

The aim of this study is to present the findings from study 1 to a focus group of GWA stakeholders in order to generate discussions on the best ways to present recommendations to coaches based on these findings. To then provide recommendations for an educational brochure based on a thematic analysis of the focus group discussions arising from the presented data from study 1.

### *Research question*

Can the evidence-based results from study 1 generate meaningful discussion in a focus group of Gymnastics Western Australia stakeholders, concluding in coaching recommendations to avoid burnout and performance anxiety in young artistic gymnasts?

### *Study Design*

Qualitative research design.

## **Method**

Focus groups allow the interaction among participants as a source of data. A focus group meeting was conducted in May 2023 via Microsoft Teams, where all invited stakeholders met to discuss the agenda provided by the principal investigator. Discussion was enabled through a semi-structured interview process, with the principal researcher in the role of moderator. The meeting was digitally recorded and auto-transcribed for subsequent thematic analysis. The data was presented to

them in a relatable way (Appendix G), so they could draw upon their real-world experience in the gymnastics sphere to understand the four constructs. The thematic analysis utilised an inductive approach to determine the themes.

#### *Researcher characteristics and reflexivity*

The principal researcher has worked as a mental health coach with gymnasts and is a qualified Mens' Artistic Gymnastics (MAG) coach and MAG judge. Through working closely with gymnasts, she has insight into their mental health concerns. She has also observed coaches struggling with gymnasts experiencing burnout and performance anxiety, which was why she was employed to provide psychological interventions. Her prior experience may lead to assumptions regarding the view that many gymnastics coaches appear to be ignorant of gymnast mental health. The selected stakeholders are known to the principal researcher and their pro-psychological education is evident through prior discussions. It was therefore important for the principal researcher, acting as mediator, to step back from the discussion and allow the stakeholders to interpret the data freely without adding her own recommendations.

#### *Recruitment*

Participants were recruited using purposive sampling. Purposive sampling allows the data to be systematically compared across the selected criteria (Barbour, 2007). The principal supervisor has worked as a MAG coach, judge and performance coach with many gymnasts in WA. She established connections through her gymnastics network in Perth and was therefore able to select potential participants with strong expertise and lengthy experience in the sport. Participants were known to one another through professional training and gymnastics meets. Their association with each other was considered a valuable aspect of the research, in line with guidelines stating acquaintances in focus groups facilitate a more natural dialogue (Willig, 2008). The participants were emailed a letter from the principal researcher, informing them of the research aims and how they could contribute to it through participation in a focus group discussion (Appendix E). The letter clearly outlined their role and ethical considerations and will include a consent form (Appendix F).

### *Participants*

Four participants were invited to take part in this research from a population of gymnastic stakeholders with an aim to include the following: 1. A representative from Gymnastics Western Australia; 2. coaches from all levels, 3. a gymnastics club manager, 4. A current or ex-gymnast aged 18 or older, 5. the parent of a gymnast, 6. a gymnastics judge (all levels). The aim was to originally have between four and six participants in the group, but we found the four individuals selected represented all 6 stakeholder groups. A focus group consisting of smaller numbers can be beneficial in allowing the researcher to identify individual voices and seek clarification and additional information, if necessary, as well as ensuring all participants remain actively involved (Barbour, 2007; Willig 2008). The focus group consisted of four individuals with ongoing and historical involvement in gymnastics within Western Australia and between them they represented all desired criteria.

### *Cohort Description*

Participant 1 (P1) is the parent of two female gymnasts who moved from recreational to rhythmic gymnastics. Their eldest daughter retired from gymnastics and then pursued ballet, and their younger daughter followed a high-performance pathway leading to the Olympic Games. P1 was a volunteer in rhythmic gymnasts to begin with and then became a judge. They did a lot of volunteering work with the technical director for rhythmic gymnastics and then did two stints working for gymnastics WA in 2005 to 2008 and then 2011 to the present time (2023).

Participant 2 (P2) has been involved in gymnastics for 20 years. They started as a Women's Assistant Gymnast (WAG) in the national program, and made it to national level 10, attending several national championships. They did acrobatic gymnastics from a young age and recently attended the Australian National Championships and won a competition there. They started working as a coach when they were aged 15. P2 has coached national level, state and recreational WAG and MAG athletes during their professional life. They are an Accredited Exercise Physiologist/Exercise Scientist who worked clinically for a year until the COVID pandemic affected the accessibility for jobs in the sector. They later started their own gymnastics club in Perth and they work in the role of head coach and general manager.

Participant 3 (P3) has been involved in coaching women's artistic gymnastics (WAG) for 20 years. They are the senior WAG coach for the elite squad in their gym and as Competitive Programs Manager they oversee all competitive programs in the club. They have also been the WAG technical director for Gymnastics WA for six years and judge at WAG meets.

Participant 4 (P4) was an athlete from the age of 4 to 13 years old. They have been coaching state and national level MAG for the past 11 years and started judging in 2016. They are currently a FIG judge and judged at the last three National Australia Gymnastics competitions.

Despite efforts to keep the identities of the focus group members anonymous, it may be possible to identify them from biographical descriptions surrounding their role in gymnastics within Western Australia. This was discussed with the focus group members who all thought complete anonymity was unnecessary, as no known conflict of interest was identified in their work as professionals and their involvement in this research.

The assistant researcher and primary supervisor to this study Dr Caitlin Fox-Harding, attended the focus group meeting, but did not contribute to the discussion. Her role was to oversee the discussion and ensure the participants were given the opportunity to freely express their views and opinions without being coerced by the principal researcher whose role was to lead the discussion.

## Ethical Considerations

### *Approval*

The research proposal was approved by the Human Research Ethics Committee (HREC) at Edith Cowan University for approval (HREC#2020-01850-MCCALL).

### *Participant Information and Consent*

Participants for Study 2 gave their informed consent by completing an electronic consent form and circulating (via email to the principal researcher) before engaging in the focus group (Appendix F).

### *Confidentiality and Privacy*

The information that the participants provided was kept confidential, including their demographic information. All data collected was coded and de-identified (Appendix G). The group was reminded the dialogue was being recorded through auditory recoding equipment. The information that the group provided was kept confidential, by uploading the recordings to a computer data file with a protected with a password. Collected data was coded and de-identified. Efforts have been made to reduce the identifying information of participants in this study (i.e., use of gender neutral pronouns, participant numbers assigned instead of member's names). The participants were told that supervisors and reviewers may have access to the de-identified information that the focus group provided.

### *Right to Withdraw*

Participants were reminded at the start of the meeting that their participation was entirely voluntary and that anyone could withdraw from the study at any time without providing an explanation and without any consequences. However, due to the nature of the methodology, data could not be removed once discussions are underway.

### *Procedure*

The focus group was convened electronically via a Microsoft Teams meeting. The participants were reminded that their focus group discussion would be recorded and they had the right to withdraw at any time. After an introductory welcome, the principal researcher invited each participant to introduce themselves and describe their professional association with gymnastics to the group. The principal researcher presented the results from study 1 to the group. The group were asked to discuss possible applications of the research and comment on how the findings could be useful to gymnastics stakeholders. The main findings from Study 1 were presented to the focus group members by the principal researcher. To recap, the main findings were: (1) ego goal orientation is positively associated with performance anxiety generally, but not conclusively; (2) mastery goal orientation is negatively associated with performance anxiety generally, but not conclusively; (3) self-oriented perfectionism is positively associated with performance anxiety; (4) socially prescribed perfectionism is positively associated with performance anxiety; (5) self-oriented perfectionism is negatively associated with

burnout, (6) socially prescribed perfectionism is positively associated with burnout and (7) mastery-approach goals and ego-approach goals are not associated with burnout, whereas ego-avoidance goals are associated with burnout.

The principal researcher then acted as a moderator, “steering” the discussion to periodically recall the original focus, and prompting participants, where necessary. The recorded dialogue was auto-transcribed using the Microsoft Teams feature. After conducting a thematic analysis of the data, the principal researcher provided a summary of recommendations to GWA on ways to develop education for gymnastics coaches to avoid/ manage performance anxiety and avoid burnout.

### *Data Analytic Procedure*

A manual thematic analysis was carried out on the transcription (Appendix H), which searched for practical and educational strategies and coded these as recurring and relevant themes within the text. This was done due to the small number of focus group members and types of questions used. An immersive reading and re-reading of the transcript indicated emergent themes were evident across the responses and relevant codes were generated. Two data coders were used to ensure coding was unbiased: the principal researcher and associate supervisor Dr. Amanda Devine (AD), who was not present during the data collection phase. Six recurring and relevant themes were originally identified by the principal researcher and greater immersion reduced these to five themes which were agreed upon by the research team. In order to ensure a credible, reliable and valid interpretation of the data, the Qualitative Research (SRQR) checklist was used. The themes were presented to the focus group members, who were free to challenge assumptions. The group members overwhelmingly agreed with the themes that were identified.

The narrative text was first examined to paraphrase any emerging themes identified in the text (see Table 4 for an example of the data analytic procedure).

Table 4: Data analytic procedure example

Narrative text	Interpretation
<i>Interpretation P1: “I have had a lot of experience working with rhythmic gymnasts and their biggest issue is that they go into competition and go, ‘I must not drop the apparatus because it has big deductions.’” – lines 123-125</i>	The role of a coach should include opportunities to emphasise approach goals to reduce the stress associated with avoidance goals.
P1 explained that “you do get a lot of athletes that you can see that you can’t break into how they’re feeling, and obviously everyone’s got different personalities, but I think the ones that have the biggest ego problem, where they’re wanting to be as good as others, they’re not communicating with anyone.” (lines 528-532).	P1 further supported the view that communication between coach and gymnast is crucial, particularly for gymnasts who have an ego mindset rather than a mastery mindset.
<i>P3: If we’re looking specifically signs and symptoms, they can get nervous. You can definitely tell when an athlete is a lot more nervous. They start, you know, playing with their hair a lot more, wiping their hands together, needing more. Chalk. Umm. Balking of skills as well. Umm, you can say that mood changes quite a fair bit. Umm. And then for some skills and themselves, you can sort of get to avoidance levels as well, or you know, “can I go get a go to the toilet or go to the change rooms?” (lines 485-492).</i>	The relationship between the coach and gymnast was deemed to be important, with the focus group members placing an emphasis on open communication and building trust. Specifically, there was emphasis on developing the coach-gymnast relationship, promoting trust and communication, alongside being mindful of language used that may cause undue pressure on athletes. P3 stated that through good observation, coaches can pick up on non-verbal cues indicating a gymnast is not coping well mentally:

From there, interpretive definitions of sections of narrative text were organised into meaningful cluster themes as illustrated in Table 5.

Table 5: Interpretation and thematic equivalent

Interpretation	Accompanying Cluster Theme
The role of a coach should include opportunities to emphasise approach goals to reduce the stress associated with avoidance goals.	Improving Culture
P1 further supported the view that communication between coach and gymnast is crucial, particularly for gymnasts who have an ego mindset rather than a mastery mindset.	Verbal communication
The relationship between the coach and gymnast was deemed to be important, with the focus group members placing an emphasis on open communication and building trust. Specifically, there was emphasis on developing the coach-gymnast relationship, promoting trust and communication, alongside being mindful of language used that may cause undue pressure on athletes. P3 stated that through good observation, coaches can pick up on non-verbal cues indicating a gymnast is not coping well mentally:	Relationship building and mentorship



A thematic analysis was conducted to pinpoint, examine and describe ideas that occurred within the data, thus allowing for rich and detailed interpretation (Braun & Clarke, 2006). Themes that emerged from the data analysis were grouped into five categories. Some data appeared in more than one category, since themes appeared to be distinct and yet cross cutting. Educational content for stakeholders could then be generated in the form of a psychoeducation brochure, based on the themes that emerged. Once the thematic analysis phase concluded, the participants were contacted by the principal researcher to discuss the findings and to check interpretation and analysis were appropriate (see Braun & Clarke, 2006). The participants all agreed with the five themes that had been identified and stated these summarised the discussion accurately.

In order to ensure a credible, reliable and valid interpretation of the data, qualitative research design principles were adhered to in line with recommendations (Willig, 2008). The Qualitative Research (SRQR) checklist (O'Brien et al., 2014) (Appendix I) was used to ensure standards of reporting were met.

## Results

The following themes arose from the focus group discussion:

- Improving culture
- Verbal communication: the Power of Words
- Parent-coach-gymnast alignment
- Relationship building and mentorship
- Education and wellbeing

### *Corresponding themes*

The five themes correspond to each of the key findings from Study 1. The findings from Study 1 need to be conveyed to young gymnasts for them to benefit from the research. To avoid performance anxiety, a mastery goal orientation should be encouraged by coaches and parents of gymnasts. Likewise, both ego-avoidance goal orientation and socially prescribed perfectionism are predictors of

burnout, so should be avoided. Encouraging a pro-mastery gym culture as opposed to a pro-winning culture may help facilitate this, and coaches can achieve this through effective communication. Through relationship-building and mentorship, best-practice mental skills coaching can be taught. An important aspect of the rationale for Study 1 was the wellbeing of gymnasts, which is why performance anxiety and burnout were investigated. It is therefore appropriate that wellbeing emerged as a theme. It is clear that burnout needs to be avoided and performance anxiety needs to be managed, and the five themes provide specific direction to coaches, gym managers and parents in ways they can support gymnast mental health.

### *Improving Culture*

A prominent theme was around improving the culture within gymnastics. The gymnastics culture is considered to be a crucial environment for athletes to understand the relationship between goal orientations and a healthy mindset. Winning is part of the ego mindset and the culture of gymnastics, since it is based on comparison rather than trying to be the best one can be, for oneself. The focus on winning was discouraged by the members of the group, due to the pressure placed on the athletes.

Sample comments from participants included:

- *"I was terrible with setting goals. It was always: the outcome was the most important thing; I had to win" – lines 175-177*
- *"I think anytime any of our gymnasts focus on, you know, an outcome driven result or an ego, "I must win, I must win gold, I must do this" like they've set themselves up for failure immediately. Especially because you, like the gymnast, can't control the score. The judge gives out umm, that's, you know, something that can't be focused on at all. So I think at anytime a kid's, you know, set themselves that goal, 'I must make the State Team, I must win Nationals' like that's something that they can't control." – lines 154-160*
- *"I've mostly spent most of my coaching career with junior athletes on, you know, under the age of 10 to about 11. Umm one thing I found is, yeah, athletes who have external goals based on results tend to put a lot of pressure on themselves unnecessarily." – lines 195-198*  
*"I guess the culture that the coaches develop in the gym sets the gymnasts up, to succeed, you know, to go out, to do their best" – lines 301-302*

Within the discussion, there was an emphasis on promoting a motivational, coach-created culture of mastery goals to avoid performance anxiety and burnout. The benefits of using approach goals in contrast to avoidance goals were discussed alongside observations of avoidance goal setting and the devastating impact it can have during competitions. This was deemed particularly important in light of the potential for goal setting and for negative self-talk to lead to performance anxiety. Participants provided the following comments:

- *"I have had a lot of experience working with rhythmic gymnasts and their biggest issue is that they go into competition and go, 'I must not drop the apparatus because it has big deductions'." – lines 123-125*
- *"I couldn't fall off the beam. It was always those negative self-thoughts and I never really did amazing in WAG." – lines 177-178*
- *"In all those gym sports that I've done or coached, we had prescribed routines from level one to six and the kids have to do those skills. So there is no wiggle room if the kids can't do the skill. We keep working at it." – lines 394-396*

The benefits of a mastery goal orientation were later introduced to the group by the principal researcher, who contrasted with ego goal orientation. These two goal orientations were very familiar to the focus group, who have years of experience working with gymnasts, promoting a motivational coach-created culture to avoid performance anxiety and burnout.

#### *Verbal Communication: the Power of Words*

The importance of good communication between coaches and gymnasts was discussed in order to promote a mastery mindset and discourage an ego mindset. Their views were based in part by the findings from study 1, but also their own anecdotal experiences in communicating specific goal setting strategies with gymnasts. Participants recalled times when they had used open verbal communication with their gymnasts ahead of competitions to encourage them to focus solely on their own performance, and clear warnings were made that this strategy was particularly successful with younger gymnasts. The view was expressed that communication between coach and gymnast is crucial, particularly for gymnasts who have an ego mindset rather than a mastery mindset.

Sample comments from participants included:

- *"If you're top eight in the country, but you can only select six, that doesn't mean you're bad. It just means that you know, there were other people as well." (lines 199-200).*
- *"Think of rather than trying to go out there and trying to beat people who they don't know what they're doing like they have no idea what the other guys are going to bring to the comp or the judges are going to score, rather than what everyone else's scoring and doing". (lines 201-205)*
- *"You do get a lot of athletes that you can see that you can't break into how they're feeling, and obviously everyone's got different personalities, but I think the ones that have the biggest ego problem, where they're wanting to be as good as others, they're not communicating with anyone." (lines 528-532).*

The participants reflected on the importance for coaches to feel confident to give direction to gymnasts. They discussed an awareness coaches may have regarding the power of their words. One participant made this comment:

*- I think some coaches are afraid to say the wrong thing. You know you're trying to help an athlete, but if you say something wrong um, we'll say it, you know in the wrong way and it's perceived the wrong way then it can have a negative effect on the athlete. (Lines 698-701).*

### *Parent-Coach-Gymnast Alignment*

The focus group members supported the idea of parents being involved in the communication in an effort to allow parents to continue to support the healthy goal orientation and mindset approaches which the gym is fostering. The participants stated that an ego mindset can be promoted by parents who may be putting pressure on their child to win medals rather than adopt a mastery mindset. This can also equate to socially prescribed perfectionism, with the gymnast wanting to impress their parent/s rather than strive for perfection for themselves. A focus on parent-coach-gymnast alignment was emphasized by the group, through educating parents not to pressure their children to win medals and beat other gymnasts. The importance of regular positive interactions between parents and coaches was discussed. This is to ensure the goals in the gym are being reinforced through coach education as well as encouraged at home so the gymnast receives a consistent message that a mastery mindset is more healthy than an ego mindset when it comes to avoiding performance anxiety and burnout. The pressure of trying to impress a parent or coach was discouraged by the participants, as they associated this with increasing the likelihood of performance anxiety.

Sample comments from participants included:

*- Those athletes who put a lot of pressure on themselves to win rather than do well, tend to have parents that also push them to win (laughs) is very much my experience. I had an athlete last year that was very much getting to the elite pathway, but the main issue with his stress around competing was actually his mum. It's not....I haven't really dealt with any hyper-competitive athletes that don't have parents that are the same, as of yet. (lines 216-222).*

*- I had multiple meetings with the mum to try and align. her with our goals and to make sure we're using the same type of language in the gym and outside to make sure we're goal setting appropriately. (Lines 227-229)*

*-But then when you take them out of their home environment and you put them at Australian Championships, they fall apart at the seams. And they make one mistake and it catapults into numerous mistakes. And so when that occurs, you see that when they go into their next apparatus, when they're in the warm-up hall, they are training so hard because they believe that they need to try and get their mind back into focus. But sometimes they disappoint themselves because they go out and do exactly the same thing again. So it's like there's a combination of trying to prove a point to themselves, but also there is a big*

*expectation, I think, of trying to either please their coaches or their parents. And you do notice a lot when their parents are not in the environment of watching them or they can't see them, they perform better. So and that's me looking very much objectively. I'm you know, I'm just standing watching. (Lines 240-252).*

If gymnasts are suffering from the negative impact of an ego mindset and/or socially prescribed perfectionism, the participants stated the importance for the gymnasts and their parents to discuss this with the coach. Sample comments from participants included:

*- We can't do anything if we don't know, so we need to make sure that we're communicating not only with the athlete but also the parents. The parents are going to have a lot more insight to what their kids are feeling then what we do at times so whether that's parent meetings, whether that's group meetings, I think athlete education needs to step up a lot as well for the athletes to process, "OK, this is what I'm actually feeling like. I'm just not sad or upset or anxious. This is why I'm feeling this way. This is how I process it. This is how I communicate it" and I think workshops where the parents, athletes and coaches are involved would probably be the best. So everyone's getting the same information. Everyone's on the same page and know how to work together towards a common goal. (Lines 517-527).*

*- I think it's the athletes being able to express and being able to get, get them to understand that it's OK to say that things are not going well and to reach out for help, but also for their parents to understand that they need to support that. Because I see from this side, as you say, you as coaches, you're trying to have all these tools to your kit, but that's not necessarily your role. (Lines 740-745).*

There is a clear viewpoint that involving parents with the coach's psychological strategies to improve the mental health of the athlete is ideal. A sample comment from a participant is stated:

*- It goes back to what P2 said earlier it was like education. Having everyone in the same room together, coaches, athletes, parents altogether hearing the same language during the same thing, all being aligned. Umm, just to, you know, help the athlete. (Lines 746-751).*

#### *Relationship Building and Mentorship.*

The relationship between the coach and gymnast was deemed to be important, with the focus group members placing an emphasis on open communication and building trust. Specifically, there was emphasis on developing the coach-gymnast relationship, promoting trust, and with coaches being observant of difficulties their gymnasts may be experiencing but not verbally communicating. Sample comments from participants included:

*- If we're looking specifically signs and symptoms, they can get nervous. You can definitely tell when an athlete is a lot more nervous. They start, you know, playing with their hair a lot more, wiping their hands together, needing more chalk. Umm. Balking of skills as well. Umm, you can say that mood changes quite a fair bit. Umm. And then for*

*some skills and themselves, you can sort of get to avoidance levels as well, or you know, "can I go get a go to the toilet or go to the change rooms?" (Lines 485-492).*

*-build up a good relationship with the athlete. Get to know them and bypass all of this gymnastic stuff like get to know the athlete and talk to them...if coaches and athletes can develop a good personal relationship, then it does make it easier potentially for, you know, athletes to speak up. And for coaches to have a discussion around these sorts of topics and it doesn't happen overnight...But you know, if you can sort of breakdown some barriers as a coach, at least, you know, put it out there that it's OK to talk or, you know, instead of talking write down your problems on a piece of paper and give them to me...I think a lot of it comes down to communication and relationships. (Lines 506-516).*

The participants discussed the benefits of educating the gymnasts on the purpose of changing the intensity of the program in order to prevent burnout. They felt by showing they were concerned about the welfare of the gymnasts, it helped to build trust further and develop good rapport. Sample comments from participants included:

*-I know I this year tried to be very open with my senior level athletes...get them to understand why we're doing a certain workload at what part of the year. That actually seemed to help quite a bit this year because not only did it seem like the athletes understood more, but I also seem like they were more able to talk to me about when they feel a little bit burnt out because they understood that at this point you're going to feel a little bit tired because you've done a lot of routine work or at this point you won't. (Lines 547-557)*

*"... to educate the athletes a little bit more about why we increase or decrease the training load a certain time of year and in what sense the training load might increase or decrease, whether it be routines or skills or strength development ....means your volume .. trying to get the athletes to understand it actually meant that they were more able to communicate with me when they were feeling a bit burnt out." (Lines 557-561)*

A discussion emerged regarding using the behavioural technique known as *modelling* to help junior coaches understand the importance of rapport building with gymnasts. This can be achieved by imitating the behaviour of a highly regarded senior coach. Modelling allows junior coaches to observe senior coaches with these skills and model rapport-building techniques. Great coaching is identified in those who demonstrate an ability to track their gymnasts and are able to pick up when the gymnasts are struggling. Two factors were identified which may influence how much effort the junior coaches will make: their personality and their commitment to the sport. A sample comment from a participant included:

*- ...because all of our coaches are still very new, I try and pinpoint other coaches that are doing a fantastic job and I try and get them to make sure they, you know, they watch what they're doing and how they're managing athletes. Like I know there's one coaching a WAG*

*program who's exceptionally good at having a great relationship with the kids and, you know, being able to pick when an athlete is starting to struggle. And I try to really encourage the junior coaches to watch that. But again, how much they do and how much they take from it really depends on who the coach is and how invested they are long term. (Lines 671-681)*

There was some discussion regarding coaches being mindful of the language they used with their gymnasts and ensuring specific words matched the mindset they were trying to foster. A mastery mindset can be fostered by using language which describes the skills. Avoiding using language focusing on winning and beating others helps to indicate to the gymnasts that they need to focus on their skills rather than winning or beating others.

*- But at the end of the day, I think it came down more to management of the expectations. You know, making sure that his training was focused around his skill development rather than what scores he was getting or you know, it was and it definitely was a consistent issue and I didn't really have a way to solve it. I just had a way to kind of try and manage it to make sure that what the words I was using during training to try and get him to get better was more around the actual skill itself rather than how that would help him achieve better results. (Lines 229-236)*

The participants discussed the importance of empathy in building the relationship between the coach and gymnast. Understanding the strong persistence to strive towards perfection and the problems the gymnasts may incur in being overly critical, was considered a benefit in coaching. Having empathy towards the self-critical gymnast, constantly striving towards perfectionism can inspire motivational and positive coaching tips. Commentary included:

*- I think to be a great gymnast, you have to be a perfectionist. "Do you want to be striving to always get better and better and better at these skills because your competitors are doing the exact same?" And I think that's why the sport in nature attracts people like us who are perfectionists who want to be perfect at things and get things amazing and drill them again and again and again. Otherwise you would just become bored of the sport where, "OK, I've achieved the skill. It's not perfect, but I don't wanna work it anymore because I've done it". Umm, so I think you need to be a perfectionist within the sport. (Lines 270-278).*

*- I think the language that we use and the self-talk, and as a coach talking to the athletes, the language that you use as well would be really important in that it's about going out and doing your best rather than going out and striving for that outcome. So it's, "Did you perform your best on the day, to the highest ability that you can, striving to perform well?" rather than, "Did you perform perfectly to get a gold medal?" (Lines 292-297)*

*- I think a lot of it does come down to the language that is used in the gym, from the coaches. I think we're going to have a perfectionist trait in ourselves and our athletes and*

*just having the kids...strive to be the best and go out and just give it their all and be OK with making mistakes. (Lines 299-310).*

- *"My coach....he's really good with younger athletes. He tells them that the butterflies in their belly are going to help them fly" (Lines 710-711).*

The focus group considered the differences in coaching males and females, and discussed their view that female gymnasts are generally more self-critical and more likely to experience performance anxiety than male gymnasts. The participants considered the word "perfectionism" and how female and male gymnasts may respond to hearing it. The participants considered how using the term "excellent" instead of "perfect" might help female gymnasts to feel less pressure which may help lower levels of anxiety, but felt this wasn't a necessary strategy for boys on the whole. The coach is required to be flexible and adaptable in their approach to get the best from their gymnasts. Sample comments from participants included:

*- when I hear excellence and perfect next to each other, I think they're miles apart and I would like to strive for excellence and an excellent performance might be, "you pointed your toes this time" or "you had good height in your elements" or whatever...I think...even just using that terminology could make a bit of a difference. I think especially in probably female athletes. (Lines 315-320).*

*- I think with boys I don't, we don't really have an issue with perfectionism much. It's more the coaches job to almost try and get them to think more about it (laughs) rather than trying to manage their own perfectionism. Boys is very different than girls (Lines 323-326).*

Flexibility emerged as a sub-theme of relationship-building when participants considered ways to help release pressure from gymnasts exhibiting anxiety. A more flexible mindset may give a gymnast room to consider their strengths and weaknesses in the sport. They may consider moving into a similar but different gym sport, such as trampolining or acrobatics, if they are not enjoying artistic gymnastics. Senior artistic gymnasts can be flexible by leaving out skills they no longer wish to perform and focusing on the skills they are enjoying. Sample comments from participants included:

*-it would be terrific if all athletes and coaches, you know, were flexible in their mindset. Umm. And yeah, we're OK with, you know, not being great at one thing, but trying something else. (Lines 344-346).*

*- So when you're struggling with a particular skill, you can change it up. So, for example on vault, if an athlete has a fear of going backwards, they get to choose not to use Yurchenko, they can do a handspring vault instead. (Lines 400-403).*

### *Education and Wellbeing*

Finally, the importance of athlete mental-health and wellbeing was discussed from the perspective of educating coaches on the risks associated with performance anxiety and burnout in their gymnasts (psychoeducation). The participants discussed the current lack of psychoeducation for gymnastics coaches in training programmes, coach conferences and even some ignorance regarding at what stage gymnastics coaches start to receive psychoeducation. Comments from participants included:

*- there's I think in the current coaching education, you know, the accreditation coaching coursework, there's zero psychology in...every course I've presented, there's no psychology framework...or mind setting framework. So and potentially some presenters, and assessors may not be the right people to teach that sort of stuff...Educating coaches, that needs to come from psychologists, sports psychologists, counsellors. Yeah, you have that education and just provide a face-to-face workshops would be the best thing, but for a lot of clubs and coaches that'll come down to cost. (Lines 349-356).*

*- But then is it the fact that we haven't had a Coach Conference for several years... athlete mental health and wellbeing is paramount at this point in time. It was probably not taken into consideration that much 10 years ago, it was there, but not talked about to the degree that it is today. (Lines 361-365).*

*- Has anyone in the in the focus group done the FIG 2 Coaching Academy course? Because I'm not sure at what point the Federation actually brings in the psychology, I know they have it at 3, but I don't know if they have it at 2 and so whilst some of our coaches go on to do Academy 2, they're developing young coaches and upcoming coaches for quite some time before they get to that level. (Lines 371-376).*

There was consensus that further psychoeducation was required so that gymnastics coaches can have the opportunity to learn from research which describes the associations between goal orientations and negative outcomes in gymnasts. The consensus included:

*- "I think it's just you can come down to be as simple as providing coaches some direction of, you know, specific examples like these are your ego goals: "I must win. I must do this. I must do this". Umm, you know, and stating that there um linked to performance anxiety. You know what are some, I guess, signs and symptoms of someone experiencing performance anxiety and then, yeah, listing whatever. Now some mastery goals. You know, "instead of this, try this", umm, whether it be discussions in coaching workshops, handouts or fliers provided to athletes. (Lines 454-461).*

Returning to the theme of Improving Culture, a significant facilitator of improved psychoeducation is the attitude towards the benefits of psychoeducation by all coaches. This can be an important aspect of gym culture, so that all coaches are open to the recommendations regarding

psychoeducation. The participants warned some coaches would be resistant to the recommendations. Incentives may be required to help improve culture within the gym. Participants reflected and proposed supportive ideas:

*- I think some of the old-school coaches, it might be quite difficult to change some thought processes and their own personal experiences. Umm, but I think a lot of the younger coaches coming through now, particularly those who have been in the sport as athletes themselves, umm, you know in the last 10 to 15 years do have a better understanding of these sorts of things, but still lots and lots and lots of room for growth in the performance anxiety, psychological, athlete-wellbeing area. (Lines 468-474).*

*- unless the coaches are super, yeah, interested in their coaching and very disciplined and are willing to go above and beyond, which is not as common, it's very difficult to get coaches to run these things at you know, separate to coaching and itself from what I've found you know it's not easy to get some coaches to do it. The ones who are planning on coaching long term and have you know, a very deep interest in the welfare of their athletes. But from a general sense of view, I think coaches struggle like it's hard to get coaches to do that stuff considering they probably think it's an extra job on top of their coaching. (Lines 646-654).*

*- "Any education is always useful as it is, but I think we would have to pick and choose the coaches who we really want them to apply it. Like I said, I think you know part of my job is making sure that I kind of pick the coaches who are interested in invested long-term. And although everyone getting information would be beneficial for not only their groups but also the club as a whole, I think being selective about who I actually want them to follow through with it because for some other ones, it's almost like trying to get, you know, like trying to get them to do things they're not willing to do? (Lines 659-666).*

Understanding the knowledge base of all stakeholders is an important next step to planning knowledge exchange transfer. A key concern raised was that many gymnasts, parents and coaches are oblivious to psychoeducation that can pre-empt negative mental health outcomes. The primary researcher asked the group whether gymnasts are aware of the symptoms of burnout and ways it can be prevented and the response was negative.

*- No, I don't think so. I don't think that they have any idea really...I had one athlete definitely burnout this year. He was doing multiple gym sports and when he got to Nationals he was a wreck. And yeah, I don't, I don't think anyone really knew what was happening with him. And he definitely didn't until we kind of got to nationals and I was able to have a chat with him and say, like, you need to calm down (laughs) basically you need, you need to pace yourself a little bit. You need to make sure you take care of yourself, otherwise you're going to feel there like how you feel now, yeah. (Lines 570-577).*

The notion that gymnasts are often unaware of factors that can increase their risk of burnout was discussed further. Participants saw the importance of psychoeducation and provided solutions:

- *I think more education for athletes is needed. So they did something this year called the State Squad and athletes who were expected to make a state team this year...they did a workshop with a psychologist and whilst it was very quick to run through, nothing was covered in depth, I still felt that it was amazingly helpful. They did cover burnout. They did cover poor sleep hygiene and we came away as athletes, even the younger ones, going oh, you know what I am burnt out and I have got terrible sleep habits, but we didn't come away with a knowledge of how to improve upon them. So we were like, yeah, I am burnt out and I am feeling terrible and I'm not sleeping and I'm probably not eating very well, but I don't really have the tools and the knowledge to know how to fix that as an athlete. (Lines 599-610)*

- *I don't think a lot of other clubs have the knowledge or the programming to ramp up during off-season and then taper. I know my club, we definitely don't taper, which we need to right before Nationals and the other clubs that I've heard about also don't have that sort of programming where they're looking at increasing load and then increasing intensity and then tapering off before comps. So I think a lot of the clubs ramp up intensity, both physically and mentally, right before Nationals. I think the coaches also get stressed right before Nationals and that's when they're starting to yell a little bit more and then like, "Run it again! Do it again. More repetitions!" The athletes are feeling the pressure mentally and physically by that point, and I don't think it's helpful for anyone to be ramping up and not tapering off during that time. So I think it's important for the athletes to know what burnout is. And I think it's important for the coaches to understand how to prevent burnout. (Lines 611-624)*

The participants shared a collective view that psychoeducation is valuable for coaches. They discussed the overall benefits for gymnasts to receive psychoeducation in order to prevent burnout and manage performance anxiety so that it doesn't hinder performance or ruin enjoyment for the sport. Reflections and advice included:

- *"If you get the mental side mental game sorted first, then everything else will actually improve changing the mindset of all of the coaches out there to think well, like, you know, gymnastics is a mental game, and if you fix that and work on that, then that's going to go a long way. (Lines 720-725).*

- *"my younger daughter that went to the Olympics...had a lot of ups and downs was making mistakes, and undervaluing her ability and so continually never achieving the score that she was capable of. And when she worked with a performance psychologist, within six weeks he turned around her whole performance and her whole approach to what she was doing...She said: "the hours an athlete will save if they get their performance psychology right will be massive and they won't have to train nearly so hard". And I thought that actually was a really valid comment because we underestimate how much the brain influences the outcomes". (Line 726-735).*

## Discussion

*An interpretation of the findings from the focus group*

Five themes were identified in Study 2 based on the discussion of participants relating to the findings from study 1n. Inadequacies were highlighted in each of these five areas (gym culture, verbal communication, parent-coach-gymnast alignment, relationship building and mentorship, education and wellbeing). Psychoeducation is a concept which provides solutions and the five themes can become vehicles of change based on some of the suggestions.

The results of the focus group's discussion provide rich data which will lead to recommendations to gymnastics coaches on both the content and delivery of gymnast psychoeducation. The primary purpose of the psychoeducation is to help foster a healthy mindset within the gym and during gymnastics meets, where gymnasts can re-frame anxiety to aid them rather than devastate them and learn ways to avoid burnout. A specific focus on the constructs "perfectionism" and "achievement goal orientation" provides something tangible the coach and gymnasts can work with, such as creating mastery goals, honing in on approach goals rather than avoidance goals and ensuring that striving for perfection (or excellence) is encouraged.

#### *Psychoeducation content*

Improving the culture of gymnastics was a major theme in this study. After the research was conducted, the results were discussed with each member of the focus group. Feedback was received from the representative of GWA, who stated "improving culture" had already been highlighted as an area in need of development. There was therefore strong agreement in its inclusion as an important theme. An emphasis on promoting a motivational, coach-created culture focusing on mastery goals was emphasised by the focus group. The improving culture theme intersects with the theme of wellbeing, highlighting the desirability for the gym culture to incorporate a caring approach, so that a good gym culture is established through communication and implemented and maintained through the establishment of solid relationships and good rapport. A desirable gym culture will impact positively on the wellbeing of gymnasts and coaches alike and can be promoted through psychoeducation (Isoard-Gauthier, et al., 2013), which therefore warrants the attention to sport-specific improvements to culture.

The benefits of using approach goals in contrast to avoidance goals was also discussed. The focus group was already well acquainted with the problems associated with gymnasts worrying about falling off apparatus or worrying about not ‘sticking a dismount’. The devastating impact avoidance goal setting can have during competitions was supported by anecdotal examples from the group. What may seem common sense to the focus group members may not be so obvious to a quiet, perfectionistic gymnast, who quietly tells herself she must not fall. The coach may not be aware of the avoidance goals she has already set in her mind, which is why good communication is an important theme which intersects improving culture. A gym culture based on the importance of mastery-approach goals and striving for perfection rather than focusing on “don’ts” and “nos” is a positive culture. A positive training environment with encouraging, positive communication can foster a commitment to continual improvement in high pressure situations (Aldred, D. 2016). There was some discussion regarding coaches being mindful of the impact of their communication with gymnasts (i.e., power of words, verbal communication) and ensuring specific words matched the mastery-approach goal orientation they are trying to encourage (Zin & Boyd, 1994). The focus group considered the differences in coaching males and females, and discussed their view that female gymnasts are generally more self-critical and more likely to experience performance anxiety than male gymnasts (Rocha & Osório, 2018). The participants considered the words “perfectionism”, “excellent”, and how female and male gymnasts may feel regarding pressure and respond accordingly.

Another sub-theme was the importance of a flexible mindset from the athletes, coaches and supporters. The focus group discussed mental preparation for ‘meets’ and stated the importance regarding being hopeful for success but also being flexible to adjust if things do not go as planned. A gymnast may miscue where they have landed on the floor following a tumble sequence. The coaches considered flexible thinking an important skill in order for gymnast recovery, rather than suddenly stopping because their routine has not followed the rigid perfectionism in their mind. Likewise, a gymnast may over-rotate on the beam or misplace hand position on the pommel and must think quickly in order to recover. Adaption is therefore an important aspect of the psychoeducation which gymnasts need to understand. Previous research discusses the importance of a flexible mindset and resilience in order to recover from mistakes and learn from them (Anshel, 2016; James, et al. 2022).

Striving for perfection is a value embraced by gymnastics due to the nature of deductions for mistakes, but coaches can discuss striving for excellence in order to make the approach goals more realistic and achievable, while still providing the gymnast with enough difficulty in execution in order to challenge them.

The focus group participants discussed incorporating strategies such as self-talk in order to get desired results. Self-talk is a widely used technique in sport psychology that can be used in conjunction with mastery-approach goal setting to give the best mental preparation before a performance. Visualisation is another strategy which can be used alongside self-talk to promote desired results, but wasn't discussed by the focus group. Self-talk and visualisation were two techniques harnessed by the impressive Canadian one-armed gymnast Carol Johnston, who competed with able-bodied gymnasts at international level (Donovan, 1982). Coaches can teach these strategies if they are provided with the training to do so.

Non-verbal communication was also discussed, with an emphasis on watching for signs of burnout and performance anxiety. It was also deemed important to educate gymnasts and parents on signs of performance anxiety and burnout, so they can intervene if necessary. Interventions can be avoided by helping to prevent the issues from arising in the first place. Developing the coach-gymnast relationship can help to build trust further and develop good rapport and allows the gymnast to feel comfortable in confiding in a coach if they are struggling with performance anxiety or suspect they are starting to feel burnt out.

The participants discussed coaches reframing performance anxiety so the gymnast feels their body is working for them not against them, and the adrenaline and nervousness they are experiencing will equip them to perform well in moments that matter. This relates to the adopting a flexible and positive mindset which promotes thriving under pressure (Aldred, 2016). Performance anxiety can be viewed as facilitative rather than debilitating (Jones & Hanton, 2001). Reframing performance anxiety as a positive rather than negative was a recommendation from the focus group participants.

Coach-gymnast-parent alignment was a recurring theme in the discussion. Previous research indicates that parents can be power influences on motivational climates (Appleton, et al. 2011, McArdle & Duda, 2004). Parents should feel a part of the positive gym culture which is based on

mastery-approach goals, learning from mistakes and continually striving for excellence. With the necessary psychoeducation, parents can use similar language to the coaches to encourage positivity despite inevitable failure, resilience, determination and the mastery-approach goal orientation which allows these qualities to develop in order to help their child handle pressure (Aldred, D, 2016).


Athlete mental-health and wellbeing was discussed from the perspective of educating coaches on the risks associated with performance anxiety and burnout in their gymnasts (psychoeducation) which could be passed to gymnasts and their parents.

### *Delivery of psychoeducation*

The practical application of the research findings needs careful consideration: who is delivering the psychoeducation and in what capacity? How can consistency be assured so all gyms and coaches receive the same information? What is the best way to convey the psychoeducation to parents? It is beyond the scope of this research to create a syllabus and recommend an education platform to help deliver the psychoeducation to gyms. It is acknowledged that GWA have the expertise, funding and resources to consider the best ways to disseminate the psychoeducation to gyms. GWA have prior experience in providing training to coaches relating to child welfare and mandatory reporting. Some methods to deliver the psychoeducation were suggested by the focus group members included videoed psychoeducation sessions, PowerPoints, psychoeducation literature in the form of posters and brochures were suggested by the Focus Group.

Making a gym and competing arena appear supportive of mastery goals as opposed to ego goals may be difficult, especially as medals, podiums and ceremonies are part of the gymnastics culture. A gymnastics environment which strongly encourages mastery goals over ego goals may require some creative thinking to implement, but the focus group thought placing posters and brochures in the gym could be a good start to facilitate change.

Gymnastics coaches are required to be flexible and adaptable in their approach to get the best from their gymnasts. In this way, coaches can set an example to gymnasts through their own style of coaching, incorporating mastery-approach goals into their lessons to improve their coaching measured by their own high standards. In this way, coaches can inspire gymnasts to copy or mimic



their mental skills methods demonstrated through their practice. An example may be a coach has set a mastery approach goal to reach a higher level of coaching, which can be vocalized to the gymnasts. The coach may talk about the difficulties they are experiencing in reaching the next level of coaching, but explain how setting mastery-approach goals is helping them to progress.

The focus group participants discussed the importance of coach-to-coach mentorship (i.e., a form of professional development), so that less experienced coaches can learn some of the skills of more experienced coaches in ways to build rapport with gymnasts. As stated, great coaching is identified in those who demonstrate an ability to track their gymnasts and are able to pick up when the gymnasts are struggling (Nazarenko & Kolesnik, 2017). Mentorship may be an excellent vehicle for senior coaches to deliver psychoeducation to junior coaches. This may be a useful form of delivery if there are limitations to psychoeducation workshops (due to cost or facilitators) so only a few senior coaches can receive it. The participants discussed the current lack of psychoeducation for gymnastics coaches in training programmes, coach conferences and even some ignorance regarding at what stage gymnastics coaches start to receive psychoeducation. This is a priority for GWA to consider and relates back to recommendation the focus group have provided on effective forms of delivery, such as workshops.

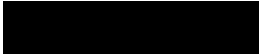
The results highlight some of the hurdles which prevent coaches from receiving psychoeducation (such as a lack of sport psychologists and educational materials, plus the associated financial costs to gyms to fund these). These results also provide practical solutions to the paucity of psychoeducation among gymnastics coaches in Australia, through a willingness by GWA to support the research, disseminate the findings with the Board and consider next steps in terms of psychoeducation for coaches. They can be used at different levels of achievement and their influence can support implementations and/or actions aligned to GWA's 2022-2026 strategic plan.

*A summary of the recommendations:*

- Recognise the signs and symptoms of burnout and performance anxiety;
- Emphasise the relationship between mindset and the outcomes performance anxiety and burnout. Mastery mindset should be underlined as advantageous over the ego mindset;

- Emphasise perfectionism as being integral to the sport whereby gender differences must be accounted for. It may be advantageous for some gymnasts to strive towards perfectionism as opposed to becoming preoccupied with perfectionistic concerns if they are to avoid negative outcomes such as performance anxiety and burnout. Consider replacing “perfection” with “excellence”, particularly with female gymnasts.
- Recognise that the gym needs to provide a culture of supporting the psychological needs of the gymnast and promote mastery mindset, approach goals and striving towards excellence in order to prevent burnout.
- Advocate for all coaches to take training in psychoeducation as a form of professional development, while acknowledging some coaches may be resistant to it and may not incorporate it into their coaching. Consider the pros and cons of implementation as a requirement;
- Build relationships with parents, so that they can support the gym culture in valuing the mastery goal orientation over ego goal orientation, in order to encourage their children to focus less on how other gymnasts are performing and focus instead on being the best they can be for themselves.
- Emphasise the importance of good verbal communication between the coach and gymnast. Coaches need to also become aware of nonverbal signs their gymnasts are becoming egocentric and worrying about not performing skills well. Coaches need to foster a relationship of trust so that their gymnasts can explain how they are feeling without fear of judgement. Coaches need to have the skills to provide reassurance and psychoeducation to their gymnasts to correct negative thinking and replace it with positivity.

The summary was emailed to the four participants in the focus group. Overall, they expressed agreement that the themes that emerged from the data and subsequent summary are an accurate reflection of the discussion they generated during the focus group meeting. The findings have been shared with GWA, and an educational brochure (Appendix J) has been drafted which can provide some future psychoeducational guidance to all gymnastics coaches in WA. The brochure may be




endorsed by Gymnastics Australia, if they are satisfied with the quality of the research and are in agreement with the recommendations. The brochure has been worded in a way to make it easily accessible to coaches of all levels. In response to the question regarding the best way to communicate the findings and recommendations to coaches, an introductory workshop on promoting psychoeducation skills to gymnastics coaches was suggested by the members, allowing the distribution of the supplementary brochure.

### *Contribution to the field of performance anxiety and sport burnout*

The results from the second study contribute to the field of performance anxiety and burnout in sport by providing a unique set of guidelines to specifically help coaches to avoid negative outcomes impacting on young vulnerable gymnasts. The recommendations provide direct practical implications to the field of gymnastics coaching aiming to cultivate a healthy mental approach to the sport. As stated previously, many studies in the sports literature use adult populations and the attention on young gymnasts in the present study provides an important focus, particularly as it is known that this population is susceptible to performance anxiety and burnout.

### *Reflection*

The focus group represented all stakeholders associated with gymnastics, including the parent of a gymnast, competing athlete, retired athlete, gym manager, MAG coach, WAG coach and GWA representative. The focus group consisted of stakeholders heavily invested in GWA, with years of involvement and expertise in the sport. They are considered to be some of the most highly respected gymnastics experts in the state and all gave their time to be involved in the research because they believed the research to be valuable and beneficial to coaches and gymnasts alike. Upon reflection, the personalities complimented one another, with mutual respect and careful consideration of points made before responding. It was a pleasure to hear their views and fully understand the value they placed on the research and their contribution to it. This was probably why they did not want to be deidentified and have therefore chosen to be named contributors to any GWA endorsed psychoeducation brochures which may be published.



As the stakeholders were familiar to one another, conversation flowed freely. There were some pauses as the focus group reflected on the comments and questions by the principal researcher. Their considered responses ensured they provided answers which could be fact-checked by other members of the group. There were no challenges however, as the participants appeared to agree with each other's points, which added validity to the data which was being generated.


The use of Teams video conferencing allowed all stakeholders to see each other and provide their comments in the comfort of their homes/ workplaces, without the need to travel to a university seminar room. It also allowed the researchers to record not just the conversation but also the visual aspects of the focus group meeting.

The importance of adaptation and learning from mistakes could have been discussed in more detail by the focus group. The importance of a flexible mindset was touched on by the participants but could have been drawn out more by the principal researcher who was steering the conversation. Adaption can save a routine that has encountered a minor mistake. Adaption can provide a perfectionistic gymnast with a tool to overcome rigidity and even provide a life-skill which can help overcome the inevitability of imperfection. For the female gymnasts that suffer from perfection-based performance anxiety, learning to be flexible and adaptive can help develop resilience, as has been demonstrated in military training (Kumar, U. 2017).

The principal researcher was awarded an MSc in Sport and Exercise Psychology from Stafford University in 2014. She therefore has prior knowledge on many aspects of sport psychology which encourage a motivational environment for athletes. This knowledge may have influenced the interpretation of the focus group data to some extent after the thematic analysis was conducted. An example of this is her interest in building resilience through overcoming difficulties, hardships and mistakes. It is possible that another interpretation of the data from a different researcher may not have identified resilience as an important product of a good gym culture fostering a mastery-approach mindset.

### Limitations

The principal researcher relayed each finding verbally instead of using a PowerPoint presentation. A visual stimulus may have aided reflection before dialogue was generated. Since the



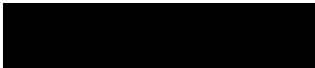
responses indicated the participants understood the research findings that was being presented to them, this was not considered a major hindrance. However, a visual aid is considered a practical way to present findings to focus groups in subsequent research.

As noted, the participants were known to each other and to the principal researcher. This possibly influenced the way the principal researcher related to the focus group participants. A more impartial stance may have facilitated less influence from the facilitator.

The data that was presented to the panel was produced by research which had investigated sports other than gymnastics. This was due to the fact that there have been limited studies in gymnastics which have examined the variables which the present study explored. Gymnastics is also a heavily female dominant sport and so there is a limitation regarding the applicability of findings from men's sports as diverse as rugby. The participants were made aware that the findings being presented came from research in an eclectic array of sports.

A further limitation was a lack of research on goal orientation as a predictor of burnout. The one study which reported the relationship between the two variables (Isoard-Gautheur, et al. 2013) incorporated an Achievement Goal Theory (AGT) perspective. There are of-course alternative ways of examining motivation, such as Self-Determination Theory (SDT). This theory examines the basic human needs of autonomy, competence and relatedness, which could be explored in more depth to provide further recommendations to GWA relating to this theory and the literature which supports it.

Both socially prescribed perfectionism and self-oriented perfectionism are influenced to a greater or lesser extent by the role of others. Self-oriented perfectionism has been linked with mastery-approach goals whereas socially prescribed perfectionism has been linked with mastery-avoidance goals (Stoeber, Damian & Madigan, 2017). Despite this link, mastery goal orientation does not incorporate a need for perfectionism. Csikszentmihalyi's (1975) conceptualisation of "flow" is self-immersion in an activity which excludes social distractions, where the individual simply enjoys the experience rather than outcome. A mastery goal may help promote a sense of flow, since the perception of external factors become minimised. The intrinsic nature of mastery goals do not necessarily align with any of the perfectionism constructs, since perfectionism is not the goal of the athlete in a state of flow. A limitation of the present study is the inclusion of a preferential



perfectionistic style as a recommendation for coaching gymnasts. As stated, striving for excellence was a suggested alternative. However, since the nature of gymnastics involves aiming for perfectionism, it had to be addressed in this research.

An emphasis was placed on coaches being educated on psychoeducation recommendations as set out in the present study. Personal factors which may impact on coaching were not considered, such as their job status and job security and whether they perceive there are opportunities for professional development within their gym (Stebbing et al., 2012).

It may not be easy to persuade ego-goal oriented parents to adopt a mastery goal orientation, as extrinsic motivation may be a strategy they incorporate into their day-to-day lives. Being competitive is a personality feature of the Big Five trait agreeableness (Hart, et al. 2007), so it may be difficult to persuade disagreeable parents to support the gym culture being promoted. One study concluded parental motivational style can be a significant predictor of athlete perfectionism (Appleton, 2011). GWA needs to be aware of this and the impact this may have on the gym culture they may try to promote. Peers may also impact on the culture of the gym (Allen, 2003; Ntoumanis, et al. 2007) and there may be some resistance to incorporating mastery-orientation goals in highly competitive, perfectionistic individuals. These gymnasts may influence those in their squad to take on a more ego-oriented thinking despite the gym culture promoting a mastery-approach orientation. USA study of young elite figure skaters examining intrinsic versus extrinsic orientations discussed the importance of peer approval among adolescents, stating that adolescents focus more on favourable social comparison as opposed to adults who reward effort (Vealey & Campbell, 1988).

## Conclusion

The aim of the second study was to present the findings from study 1 to a focus group of GWA stakeholders in order to generate discussions on the best ways to present recommendations to coaches based on these findings. The focus group successfully discussed the main findings and were able to generate rich data. The second aim was to then provide an educational brochure for gymnastics stakeholders based on a thematic analysis of the focus group discussions arising from the presented data from Study 1. From this, themes were identified. This then informed the development of an educational brochure (See Appendix J) which can be distributed to gymnastics coaches.





## **Chapter 4: A Discussion and Reflection of the Body of Research**



## Thesis Discussion

The ultimate purpose of this body of work was to provide coach psychoeducation guidelines to Gymnastics WA, with the focus on preventing or managing performance anxiety and preventing burnout. It was considered important to examine these constructs within the realm of gymnastics because gymnasts are at risk of performance anxiety and burnout due to the high demands of the sport both in training and competitions, which can impact on wellbeing (Fink et al., 2013; Martin et al., 2008; Ryan, 1996). Findings from the sport psychology literature have demonstrated a significant correlation between burnout and performance anxiety (see Cho et al., 2019; Gustafsson et al., 2008; Singh Bawa, 2010; Vealey et al., 1998). As the two are linked, joint predictors were explored.

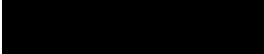
The examination of goal-related constructs and perfectionism as predictors of performance anxiety and burnout has ultimately provided Gymnastics WA with suggestions and recommendations for an introduction psychoeducation program tailored for gymnastics coaches. Perfectionism is an important component of gymnastics (Cogan & Vidmar, 2000) and the exploration of perfectionistic orientation was therefore justified. Goal orientation is considered an important element in sports and various studies have examined how goal orientation can impact on wellbeing (Biddle, et al. 2003).

Study 1 reported the associations of the predictor and dependent variables by conducting a systematic review of youth sport literature. In summary, the main findings from study 1 were: (1) ego goal orientation is positively associated with performance anxiety generally, but not conclusively; (2) mastery goal orientation is negatively associated with performance anxiety generally, but not conclusively; (3) self-oriented perfectionism is positively associated with performance anxiety; (4) socially prescribed perfectionism is positively associated with performance anxiety; (5) self-oriented perfectionism is negatively associated with burnout and (6) socially prescribed perfectionism is positively associated with burnout and (7) mastery-approach goals and mastery-avoidance goals are not associated with burnout but ego-avoidance goals are associated with burnout. No gymnastics literature met the inclusion criteria from the systematic review. However, research focusing on other sports featured in the review is applicable to gymnastics, which is both a team and individual sport and involves male and female competitors.

The findings from the review provide some support the findings of previous research which have reported mastery goal orientation is preferential to ego goal orientation in the competitive sports arena for young athletes wishing to avoid performance anxiety (Reinboth & Duda, 2004; Morris & Kavussanu, 2009). It supports findings from previous research which indicates mastery-approach goals do not predict burnout, whereas ego-avoidant goals are associated with burnout. It supports previous research which has found no preference of perfectionistic style as a predictor of performance anxiety; both forms of perfectionism positively associated with this variable and dissatisfaction with performance (Flett & Hewitt). As stated, previous research has supported the notion that no dimension or subtype of perfectionism is likely to be maladaptive (or adaptive) for everyone, under all circumstances (Hill, Mallinson-Howard & Jowett, 2020). Finally, its support previous findings indicating socially prescribed perfectionism is a predictor of burnout (Hill et al. 2010; Madigan et al. 2015).

The second study examined the findings from study 1 using a focus group of gymnastics experts and stakeholders in Western Australia. Themes emerged and were identified from their discussions. A thematic analysis of the focus group discussion revealed: 1. Improving culture, 2. Verbal Communication: the Power of Words, 3. Parent-Coach-Gymnast Alignment, 4. Relationship Building and Mentorship, 5. Education and Wellbeing. The focus group members highlighted the major influence that coaches and parents wellbeing can have on young athletes regarding their own perceived support versus pressure (Ommundsen, et al. 2006).


Improving the culture of the gym to embrace intrinsic motivation, focusing on mastery goal orientation over ego orientation in order to achieve positive mental health outcomes is well supported by the research literature in this field. The sole focus on impressing others and beating others in sport is associated with negative health outcomes. A meta-analysis of over 200 studies in youth sports revealed an ego-orientation social climate in training facilities can trigger acute psychosocial stressors (Dickerson & Kemeny, 2004). Previous recommendations of a mastery or task involving gym climate have been shown to be better equipped to deal with negative performance stressors which are often found in ego-oriented climates (Hogue, 2020; Reinboth & Duda, 2004).



Improving the culture of the gym alongside other themes identified in Study 2 collectively point to the value of psychoeducation. Psychoeducation can be provided to coaches by GWA through on-line or face-to-face professional development modules. The dissemination of psychoeducation to gymnasts, parents of gymnasts and the athletes themselves is encouraged, in order to foster healthy mindsets.

Reframing performance anxiety as a positive rather than a negative was recommended by the focus group participants. Coaches, gymnasts and parents could be educated that some level of sport related performance anxiety is considered to be normal and healthy (Patel, Omar & Terry, 2010) and some athletes report an improvement in their performance due to anxiety (Jones & Hanton, 2001). Adopting a positive, flexible mindset is part of a bigger body of sport psychology literature, which focuses on mental toughness, thriving under adversity and pressure training where athletes are encouraged to change their relationship with pressure (Low et al, 2021).

This body of work is of significance to Gymnastics WA, who influenced the direction of the research and helped facilitate aspects of it, such as the focus group meeting used in Study 2. The systematic review featured in Study 1 provided GWA with relevant data from the sport psychology literature, which was then discussed by representatives from GWA stakeholders to create recommendations with real-world application in the field of gymnastics in Western Australia. The focus group members provided great insight and shared their relevant experience in working with gymnasts in Western Australia which ensured interpretation of the data from Study 1 was aligned to GWA's practices and procedures. For example, the focus group participants are all members of GWA and so were able to make suggestions which incorporated insider knowledge of GWA policies. This was useful in terms of providing a framework for the real-world application of the recommendations. Findings from this body of research supports GWA's 2022-2026 strategic plan, by: (i) supporting the development of education for coaches in understanding the influences goal and perfectionistic processes may have on performance anxiety and/or burnout; (ii) raising awareness of possible associations between goal orientations, perfectionism, performance anxiety and burnout, which will in turn assist gymnastic clubs to raise awareness of the individual needs of their gymnasts; (iii) helping gymnastics to be recognised as a sport that promotes lifelong healthy lifestyles, by developing the



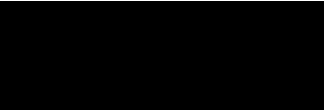
capabilities of gymnastics coaches. Going forward, it is hoped that the primary researcher and GWA can work collaboratively to ensure the recommendations in this research are discussed with relevant stakeholders. These may include GWA Board and Committee members, gym managers and high-level coaches representing the different gymnastics sports. It is hoped that training can be provided to coaches based on the recommendations in this body of research and that future meetings between the primary researcher and GWA stakeholders will determine how this training is implemented.

## Limitations

Limitations of each of the two studies have already been discussed; there are however limitations of the body of work which need to be addressed. The work has focused on performance anxiety and burnout specifically, as these were areas of concern for Gymnastics WA. Recent research in sport psychology has focused more generally on the range of emotions expressed by athletes in the competitive arena, with less attention on performance anxiety specifically. This is because other emotions can have a mediating effect on performance anxiety and this can impact on whether it is perceived as helpful or a hindrance to the athlete. Future research could address this by examining more closely the various emotional responses gymnasts express during competitions and how these emotions contribute to their mental health.

The strategies recommended in this body of work aim to help encourage a healthy mindset for gymnasts, who are well-known for being a perfectionistic population of athletes. Some gymnasts may be resistant to changing their mindset, despite receiving psychoeducation based on the empirical evidence of this research. This in turn presents challenges to both coaches and the parents of gymnasts, who may struggle with facilitating the gymnast to adopt a healthy mindset in line with the recommendations.

The competitive nature of gymnastics encourages social approval through demonstrating competency and achievements to peers. There is support that the ego mindset construct is in part developmental, since teenagers go through a phase of social comparison. As well as individual characteristics influencing receptivity to the psychoeducation, the chronological age of the gymnast



may further influence its impact. Psychoeducation training for coaches needs to ensure they are provided with tools to apply the psychoeducation in order to challenge the possible resistance. Some coaches will struggle with incorporating psychological guidelines into their coaching. As stated, it is recommended for coaches to be aware of psychoeducational (i.e., professional development) pathways within GWA available to them.


The recommendations of this body of work are in line with research findings from individualist cultures. Research from collectivist cultures has indicated a reversal of these recommendations, as cultural norms in these countries focus less on the individual's needs and more on the needs of the community. A limitation of this research is the individualist Australian cultural influence on the application of the research to a real-world setting.

Finally, Study 1 did not focus specifically on motivational environments and coaching climates, so findings from this body of research were not examined or presented to the Focus Group. This research may have been helpful for the focus group members to consider, since they discussed ways to improve the gymnastics coaching environment with each other.

### Future research

A paucity of longitudinal studies in this field was highlighted, which may provide further insight in how changes in the athletic season influence performance anxiety and burnout levels. The systematic review highlighted a gap in the research regarding the relationship between goal orientation and burnout and the direction of future research is therefore provided.

A thorough examination of specific factors, such as age, level of achievement, biological sex, and perceived competence, among others, may provide a deeper understanding of how performance anxiety and burnout can be predicted. A narrower focus on findings from aesthetic sports and specifically gymnastics sports may provide further recommendations to GWA, to support their 2022-2026 strategic plan. This research is already available, suggesting GWA can draw on these findings to provide more specific evidence-based recommendations to add to those provided by the present study. Future research could be commissioned by GWA, involving current competing gymnasts in WA gyms, who could become participants in a cross-sectional and longitudinal study measuring the



predictor and dependent variables at two points in time during the gymnastics season. This research could be very valuable to GWA, especially if controlled for level of achievement, age, biological sex. It would also be useful to examine whether there is a significant difference between the gyms these participants represent to examine differences in coaching styles and gym culture.

Finally, this research was grounded in Achievement Goal Theory. However, an alternative theory, Self-Determination Theory (Deci & Ryan, 2000) explores the importance of three basic needs: competence, relatedness and autonomy and is relevance to the themes explored in this body of research. Fostering a sense of self-determination can motivate young athletes to excel in their sport. Within gymnastics, this theory has practical implications in competition, where immense pressure is placed on gymnasts. An understanding of self-determination can help them overcome mental blocks and may inspire them to pursue their goals and excel in their sport. Once gymnastics coaches are aware of the mental health benefits of the theory, they can help foster an intrinsic mindset by removing external rewards and help gymnasts take responsibility for their successes and failures.

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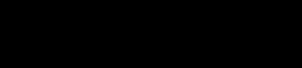
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## Appendices

### Appendix A: Search criteria for study 1

Category 1: a sport that is presently included in the winter or summer Olympic Games and is played competitively. Each individual sport must be entered into this field, since entering “sport” or “Olympic sport” did not yield the same number of results.

Category 2: goal constructs, including goal orientation and goal motivation (approach, avoidance; mastery, performance or ego, task) plus perfectionism (concern, striving, self-oriented or socially prescribed).

Category 3: negative effect: either burnout or performance anxiety.

Category 4: participants must be youths (aged 15 – 24 years) adolescents (aged 9 – 19) or children (below the age of 18) as defined by the World Health Organization (2014).

Papers not published in English must provide an adequate English translation of the research.

Research papers will be searched, using Boolean operators:

First field: all Olympic sports

Archer\* OR swim\* OR aquatics OR athlet\* OR badminton OR baseball OR softball OR basketball OR beach volleyball OR boxing OR boxer\* OR breaking OR break danc\* OR canoe\* OR kayak OR cycli\* OR div\* OR board div\* OR equestrian OR dressage OR horse rid\* OR fenc\* OR footbal\* OR soccer OR golf\* OR gymnast\* OR handball\* OR hockey OR judo OR karate OR marathon OR run\* OR pentathl\* OR row\* OR rugby 7s OR sail\* OR shoot\* OR table tennis OR tennis OR taekwondo OR trampolin\* OR triathl\* OR volleyball OR water polo OR weightlift\* OR wrestl\* OR alpine ski\* OR ski\* OR biathl\* OR bobsleigh OR cross country ski\* curl\* OR figure skat\* OR ice skat\* OR ice danc\* OR ice hockey OR freestyle ski\* OR luge OR Nordic combined OR shot track OR skeleton OR ski jump\* OR snowboard\* OR speed skat\* OR surf\* OR BMX freestyle OR climb\* OR skateboard\* OR softball\* OR Olympic Combined OR track and field OR sport

Second field:

goal\* OR goal set\* OR goal attain\* OR achiev\* goals OR goal achievement OR perfection\* OR perfectionist\* striving OR mastery mindset OR mastery orientation OR mastery involvement OR mastery goal orientation OR task mindset OR perform\* mindset OR ego mindset OR approach goal\* OR avoidance goal\* OR goal progress OR goal adjust\* OR perfection\* concern\* OR goal process\* OR task orientation OR task involvement OR task goal orientation OR ego orientation OR ego involvement OR performance goal orientation OR performance orientation OR performance involvement OR performance goal orientation

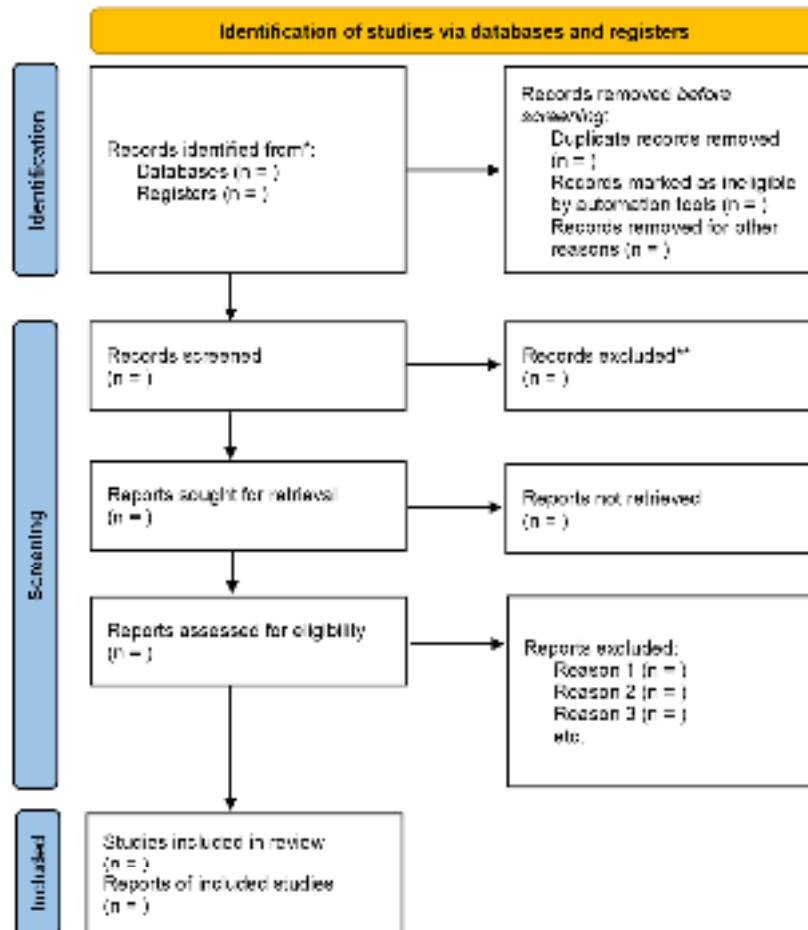
Third field:

Anx\* OR stress\* OR pressure OR performance anx\* OR competit\* anx\* OR worry OR panic OR negative affect OR undesirable social behav\* OR burnout OR reduc\* accomplish\* OR exhaust\* OR sport devalu\* OR nerv\* OR depress\* OR bored\* OR low self-esteem OR state anx\* OR mood\* OR sport\* engagement OR concern OR dissatisfy\* OR frustrate\* OR demand\* OR critic\* OR disappoint\* OR tired OR worn out OR tiring.

Fourth field:

child\* OR adolescen\* OR youth OR teen\* OR young people OR boy\* OR girl\*

## Appendix B: PRISMA 2020 flow diagram for new systematic reviews



\*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases+registers)

\*\*If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

## Appendix C: Example of a JBI Critical Appraisal Tool

### JBI Critical Appraisal Checklist for Analytical Cross Sectional Studies

Reviewer \_\_\_\_\_ Date \_\_\_\_\_

Author_	_Year_	Record #				
			Yes	No	Unclear	N/A
1	Were the criteria for inclusion in the sample clearly defined?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Were the study subjects and the setting described in detail?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Was the exposure measured in a valid and reliable way?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Were objective, standard criteria used for measurement of the condition?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Were confounding factors identified?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Were strategies to deal with confounding factors stated?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Were the outcomes measured in a valid and reliable way?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Was appropriate statistical analysis used?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

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## Appendix D: List of Measures for Study 1

Two inventories were used to measure perfectionism: The Child and Adolescent Perfectionism Scale (CAPS) (Flett et al., 1997, 2001, 2016) and the Multidimensional Perfectionism Scale (MPS) (Hewitt and Flett, 1991).

There were five measures of goal orientation: Perception of Success Questionnaire (POSQ) (Roberts et al. 1998); the Task and Ego Orientation in Sport Questionnaire (TEOSQ) (Duda and Nicholls, 1992); the Achievement Orientation Inventory (AOI) (Maehr and Nicholls, 1980), Achievement Goals Questionnaire for Sport (AGQ) (Conroy, Elliot & Hofer, 2003) and the Approach and Avoidance Questionnaire for Sport and Physical Education, (AAQSPE; Schiano-Lomorieo, Cury & Da Fonseca, 2005).

Three inventories measured performance anxiety: Sport Emotion questionnaire (SEQ: Jones et al., 2005); Sport Anxiety Scale (Smith et al., 1990) and version 2 (SAS-2) (Smith et al. 2006) and the competitive state anxiety inventory (CSAI-2)

One inventory was used to measure burnout: the Athlete Burnout Questionnaire (ABQ) (Raedeke & Smith, 2009).



## **BEST PRACTICE RECOMMENDATIONS FOR COACHING**

### **GYMNASTS TO AVOID BURNOUT AND REFRAME PERFORMANCE ANXIETY**

Clare McCall (researcher)

Dear \_\_\_\_\_

#### **Re. Participation Information Letter and Consent**


Clare McCall is a post-graduate research student in the field of sport psychology. Her research is being conducted at Edith Cowan University (ECU). The focus of this research is to understand more about performance anxiety and burnout in young gymnasts.

The proposed research is in the very best interests of improving mental health in gymnasts in Western Australia, as it seeks to provide recommendations to Gymnastics Western Australia (GWA) which can then be used by coaches. The proposed research is fully endorsed by GWA and has been approved by ECU's ethics board. Participants who take part in this research will be protected by rigorous ethical standards.

#### *Purpose of the Study*

Gymnastics is regarded as a mentally demanding sport; coaches are required to support gymnasts to take a mentally healthy approach to their sport. The purpose of this study is to investigate the goal orientations of gymnasts, their style of perfectionism and how these associate with performance anxiety and/or burnout. This information can then provide recommendations to GWA, with regard to coach education. This supports GWA's vision and mission, with regards to developing capabilities in coaches and helping gymnasts to have lifelong healthy lifestyles.

#### *Nature of Participation*



You have been selected to take part in a focus group via Microsoft Teams on Friday 26<sup>th</sup> May 2023 at 10.30am for a one-hour session. You have been selected to take part because we feel that your knowledge and understanding of gymnastics would be extremely valuable in providing feedback to us.

We have carried out a review of published research focusing on goal setting and perfectionism and how these associate with performance anxiety and burnout in young athletes. We would like to share the results with you, via a short Power Point presentation. We would then like to ask the group members a few questions relating to how we can use these findings to provide recommendations to coaches of gymnasts. After each question, we invite you all to start a group discussion with one another. This will be recorded. From the recorded dialogue, we will pick out themes from the discussions.

Although you have been selected to take part in this study, there is no obligation on your part to be involved with this part of the research. Your participation is purely voluntary. No identifying information that you provide will be shared with Gymnastics Western Australia (GWA) and your participation (or decision not to) will NOT impact on your relationship with GWA.


#### *Confidentiality and privacy*

The information that you provide will be kept confidential. The data collected will be coded and kept separate from your name, consent and any contact details provided. All information will be stored in a secure location. The data from the focus group discussions will be analysed and the information will be included in my thesis and any publication of the results. No identifying information will be included in the thesis or any subsequent publications. Supervisors and reviewers may also have access to the de-identified information that you provide. De-identified data from this research may also be used for future legitimate scientific research such as a meta-analysis.

#### *Right to withdraw*

Your participation is entirely voluntary and you can withdraw from the study at any time without needing to provide any reason and without any consequences, even after you have taken part in the study.

#### *Results of the Study*



The results of the study will be presented in Clare's thesis. It is also our intention to publish the research in a journal and present the results at a relevant GWA conference. From your feedback, we aim to produce a summary of the results in an agreed medium.

*Further Information*

If you have any queries or wish to find out about the results of the study on completion, please use the above contact details.

Here are the contact details of the Human Research Ethics Committee:

email: [research.ethics@ecu.edu.au](mailto:research.ethics@ecu.edu.au)

tel: 6304 2170.

We ask that should you agree to take part in this research, that you agree to a confidentiality agreement. Upon completion of the study, please do not share the content of the discussions with anyone outside of the research group (the researchers and participants).

Thank you for your interest in this important gymnastics research. If you are happy to proceed, please complete the attached consent form and bring it with you to the workshop.

Kind regards,



## Appendix F: Participant Consent Form



E: [research.ethics@ecu.edu.au](mailto:research.ethics@ecu.edu.au)

### Participant Consent Form

**Project title: BEST PRACTICE RECOMMENDATIONS FOR COACHING GYMNASTS TO AVOID BURNOUT AND REFRAME PERFORMANCE ANXIETY**

**Principal Investigator:** Clare McCall (supervisors: Dr. Caitlin Fox-Harding, Dr. Amanda Devine)

I have read the Participant Information Sheet. By ticking the yes box below on this consent form, I acknowledge that I:

- have been provided with a copy of the Information Letter for Participants, explaining the research study
- have read and understand the information provided
- have been given the opportunity to ask questions
- if applicable, I have had any questions answered to my satisfaction
- am aware that if I have any additional questions, I can contact the research team
- understand that participation in the research project will involve:
  - - Watching a power point presentation, describing the results from Clare's research
  - - Taking part in a discussion with a small group of gymnastics stake-holders on the results of the research and how these can be used to make an educational tool for gymnastics coaches.
- understand that the information provided will be kept confidential, and that my identity will not be disclosed without consent. All data will be de-identified.
- understand that I am free to withdraw from further participation at any time, without explanation or penalty
- freely agree to participate in the project
- agree not to disclose any information related to the content of the focus group discussions
- understand that no identifying information provided will be shared with Gymnastics Western Australia (GWA) and my participation (or decision not to) will NOT impact on my relationship with GWA.
- *The data collected for the purposes of this research project and publications may be used in further approved research projects, provided my name and any other identifying information are removed.*

I agree to take part in this research

Yes ☐

No ☐


---

Approval to conduct this research has been provided by the Edith Cowan University's Human Research Ethics



## Appendix G: Focus Group Guide.

1. Introductions (each participant to discuss their background in gymnastics).
2. Purpose of the study.
3. Present findings.
4. Questions to the group based on the findings:  
Goal orientation:
  5. Could you give me some of your own expertise and experience with goal setting?
  6. If you do find that an athlete who's very focused on trying to beat somebody else what kind of tips would you give them?
  7. What education could help coaches to encourage mastery over ego mindset, knowing the detrimental associations with performance anxiety and burnout?
  8. How do you deal with parents that encourage their children to be better than your other gym mates?
  9. What are your views on perfectionism in general? Do you think that perfectionism is an important aspect of gymnastics, or do you feel like that it causes a lot of problems?
  10. How do we deal with gymnastic perfectionistic concerns and turn those into perfectionistic strivings? What kind of tips could you give?
  11. Does the word excellent appear less pressurising than perfect?
  12. What do you think about flexibility to avoid the kind of anxiety that gymnasts may have because they want to be perfect?
  13. What indicators of performance anxiety should coaches be looking out for?
  14. What can we do to help gymnasts to focus more on self-oriented perfectionism?
  15. Do we need to talk to them about burnout and what that actually is?
  16. How useful do you think it is for coaches to use screening tools?
  17. Do clubs need a mental skills coach?

- 
18. How can coaches come up with some tips to help gymnasts who are struggling with performance anxiety and reframing it?
  19. Any concluding comments?

## Appendix H: Focus Group Transcript

Date: 26 May, 2023,

Time: 10.30-1130 AWST 1h 8m 42s

**CM**

1. So thank you all of you for attending this meeting. And so we have P1

id you want to say something else about your experience in

4. gymnastics, P1?

**P1**

5. Uh, yes, certainly. I suppose I started as a parent in gymnastics with two daughters  
6. who followed from recreational gymnasts into rhythmic. My elder daughter retired  
7. just as she went into senior international, then pursued ballet, and my younger  
8. daughter hopped in and out of the sport for a few years between the age of 12  
9. and 15, doing athletics, but came back in. And then followed a high-performance  
10. pathway leading to the Olympic Games. I was a volunteer in the sport, ultimately  
11. became a judge when we moved to Australia. I did a lot of volunteering work  
12. with the technical director for rhythmic gymnastics and then ultimately started  
13. working in the sport. My background is actually the **airline industry**, so I didn't  
14. initially have a lot of experience in the sport until I actually got involved as a  
15. judge and I've been working for gymnastics WA, 2 stints, 3 years, 2005 to 2008  
16. and 2011 to current. So I'm part of the woodwork!

**CM** 2:17

17. Yeah, very impressive. And we also have with us P4.

18. Did I say that correctly?

**P1** 2:27

19. He's not with us.

**CM** 2:29

20. He's not with us?

**P1** 2:29

21. Yeah, he's not.

**CM** 2:30

22. OK. Sorry. P3, who is the head coach of [REDACTED] could P3. you give us a little bit of  
23. background on you?

**P3** 2:38

24. Yes, so currently I've been working at [REDACTED] for seven years now.

25. Umm my current role is sort of a senior WAG coach of squad one and as

26. Competitive Programs Manager also oversee all of the competitive programs

27. here at [REDACTED] I'm also the women's artistic gymnastics technical

28. director for Gymnastics WA, so I've held that position for six years now, I think.

29. And then on top of that, also do some judging as well. So yeah, been involved for

30. about 20 years now, I think, in gymnastics!

**CM** 3:24

31. Wow, that's really impressive. Umm, we will move to P2, known as

[REDACTED], could  
33. you tell us a little bit more about yourself?

[REDACTED]

**P2** 3:37

34. Sure. Umm I have been in the sport for just under 20 years now. I started as a  
35. WAG gymnast in the national program. I made it all the way to national level 10  
36. and attended several national championships in WAG. I have also done acrobatic  
37. gymnastics from a young age. I came in and out of that as an athlete. Umm, we  
38. just attended the Australian National Championships and won [REDACTED]  
39. women's pair, which is really exciting and as a coach I started when I was in about  
40. year 10. So I've coached national level WAG and MAG athletes as well as state  
41. level MAG and WAG athletes and recreational in my professional life. I have been  
42. an exercise physiologist and exercise scientist and I worked clinically for an hour,  
43. (clears throat) I'm sorry, for a year until COVID happened and when COVID  
44. happened, I moved into starting my own gym club with my family and starting

[REDACTED]

**CM** 4:45

47. Wow, I am in the presence of greatness. And who else? Who else is in the  
48. meeting apart from you, Caitlin?

**CF** 4:53

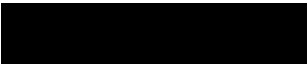
49. That's it for now.

**CM** 4:55

50. OK, so my supervisor is Doctor Caitlin Fox-Harding, could you tell us a little bit of  
51. your background, Caitlin?

**CF** 5:02

52. Yeah. So my name is Caitlin and I am, uh, one of Clare's supervisors for PhD and



53. her masters research. I have a background in public health with a focus on  
54. exercise and mental illness with the utility of sport and exercise principles that  
55. carry me into a variety of different populations. So I work in cancer, pregnancy,  
56. mental illness, just general health and wellness. And professionally I have  
57. affiliation with the Olympic sport of fencing, so I've been the National Operations \  
58. Manager, High Performance Manager and I served as a Director of Diversity,  
59. Equity and Inclusion up until this time last year when I went on maternity leave. I  
60. now serve for this Oceania realm, in addition to the International Space  
61. governing the sport of fencing across the planet.

**CM** 6:00

62. Thank you. Thank you all of you. You've got such amazing expertise and  
63. knowledge in this area.

**CF** 6:07

64. Just to jump in quickly, you got P4 now.

**CM** 6:11

65. Hi, could you give us a bit of background on you?

**P2**6:18


66. You're on mute-

**P4**6:22

67. Sorry.

68. What was that?

**CM** 6:24



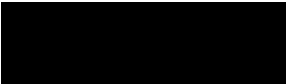
69. We've just been introducing ourselves and thank you so much for coming along.  
70. Would you be able to just give us a few sentences or so on your background in  
71. gymnastics, please?

**P4** 6:35

72. Sure, I started as an athlete when I was four. Umm went all the way through to  
73. about 13 years old. Didn't really do much as an athlete. And then started  
74. coaching and have been coaching for the past 11 years, started judging in 2016.  
75. I'm currently a FIG judge and have gone and judged at Nationals for the last  
76. three National's competitions. Yeah, that's kind of it so far.

**CM** 7:08

77. Yeah. That's great. Thank you. Thank you so much. OK so I was doing a PhD and  
78. my focus of the PhD was looking at what predicts performance anxiety and  
79. burnout in gymnasts. Unfortunately, I had to stop doing the PhD because I  
80. wanted to become fully registered as a psychologist in Australia and my  
81. qualifications all come from the UK. So in order to become fully registered, I had  
82. to give up doing my PhD and had to work full time as an intern, which is what I'm  
83. doing and by the end of the year I'll be fully registered and hope to go back into  
84. sport and exercise psychology. So what I've done instead of the PhD, is a Master  
85. of Research. So the first study that I did was to look at all of the studies that look  
86. at youth sport, so youth Olympic sports, and I was looking at studies where there  
87. had been, as a predictor of performance anxiety or burnout, either the type of  
88. goal that the athlete was making or the type of perfectionism that the [gymnast]  
89. was using. So I'll explain what I mean by that. So with goal setting, gymnasts can  
90. try to avoid or make an approach goal so an avoidance goal might be, "I must  
91. not fall off the beam" and an approach goal might be "I must complete the skill  
92. correctly" and what the research has shown is that the approach goals are more



93. healthy. So what I did was I looked at these different studies to try and see if that  
94. was correct. I was also looking at whether those kinds of goals help to prevent  
95. burnout. So obviously burnout is something that's very undesirable, whereas  
96. performance anxiety might be something that's helpful for a gymnast. And then I  
97. also looked at the type of perfectionism that a gymnast might be using when  
98. they are trying to be the best they can be. So is it that they're focused on, "I want  
99. to be the best for myself" or "I must try and prove to my coach or to my team  
100. that I can be the best I can be" and so that difference in thoughts and the  
101. difference in thinking may have a different outcome. So I'm just going to read to  
102. you a couple of things that I've found. Umm. And then I hope that we can  
103. generate a discussion and the purpose of the discussion is to try and come up  
104. with some tips for coaches in helping them with the psychology of gymnasts. I  
105. don't think there's a lot of information that we're provided with in this realm,  
106. and I think it would be really helpful for coaches to understand ways that they  
107. can help their gymnasts who are dealing with performance anxiety and also to  
108. prevent burnout, which is obviously always a negative. Does anyone have any  
109. questions about what I'm talking about?

**P**110:32

110. No.

**CM** 10:34

111. Does it make sense? OK, so the types of... we talked about goals. So if we just  
112. focus on goals at the moment, there's avoidance goals such as "I must not do  
113. something bad" or an approach goal, which is "I want to achieve something",  
114. and then there's the mastery goal, which is "I must do something for the best, to  
115. the best of my own ability" or an ego goal, which is, "I want to impress this  
116. person and I want to be better than them". So a mastery and avoidance goal

117. might be, "I must perform at a certain standard". Umm. Sorry, a mastery-  
118. avoidance goal might be "I must not perform at a standard lower than I know I  
119. can achieve" and a mastery-approach goal might be "I will perform to the best  
120. of my ability in this competition" and you can see that one is healthy and one  
121. isn't healthy. So do you think there's any issues with people making avoidance  
122. goals from the gymnasts that you work with?

**P1** 11:43

123. I think so. Umm so I have had a lot of experience working with rhythmic  
124. gymnasts and their biggest issue is that they go into competition and go, "I  
125. must not drop the apparatus because it has big deductions".

**CM** 12:03

126. Yep. Yeah. And then obviously they become anxious and worried and that might  
127. have an impact on their performance. So when I was working as a mental health  
128. coach with gymnasts, one of the interventions that I did that worked really well  
129. with them was to be the naive observer. So you are all specialists in the  
130. field of gymnastics, and I've only got very basic, I mean, I was a beginner coach  
131. and I did some work as a judge, so I was the naive observer and I would ask the  
132. gymnast, "Tell me what your routine is that you're going to do". One of my  
133. gymnast clients phoned me up a day before her competition to tell me that she  
134. had really bad nerves and wanted some help so I just said to her. "Can you talk  
135. me through your routine?" It was a floor routine, but I asked her as a naive  
136. observer, "What does it mean? Why are you doing this? Why do you have to run  
137. so fast?" And as she started talking through the skills, she was talking about it as  
138. if she was landing her skills and her movements, and she was performing things  
139. as she wanted, that's how she wanted them to be. And she ended up doing  
140. really well in the competition because I made her go through the whole routine

141. three times as a naive observer, getting her to explain everything as if  
142. everything was going the way she wanted it to. So that's a technique that I  
143. found was really helpful and it's an approach umm way of looking at things  
144. rather than an avoidance. So the other type of goal that you can use with your  
145. gymnasts as well as mastery is the ego goal, and some gymnasts have this  
146. propensity to just look at things from their, from their own perspective of "I  
147. want to be better than others and compete against them". So an ego-avoidance  
148. goal might be "I must not get a lower score than Sarah on the bars", whereas an  
149. ego-approach goal is "I must win gold on the floor". So we're talking about four  
150. different goals, mastery and ego, and avoidance and approach. And then they  
151. can combine together. So you can have mastery-avoidance, mastery-approach,  
152. ego-avoidance, and ego-approach. Umm could you give me some of your own  
153. expertise and, umm, experience with goal setting?

**P3**<sup>14:38</sup>

154. I think anytime any of our gymnasts focus on, you know, an outcome driven  
155. result or an ego, "I must win, I must win gold, I must do this" like they've set  
156. themselves up for failure immediately. Especially because you, like the gymnast,  
157. can't control the score. The judge gives out umm, that's, you know, something  
158. that can't be focused on at all. So I think at anytime a kid's, you know, set  
159. themselves that goal, "I must make the State Team, I must win Nationals" like  
160. that's something that they can't control and that's, you know, it would be nice to  
161. have, but there's lots of other little steps and things along the way that you  
162. need to focus on. Smaller goals that need to be, you know, "Alright, if that's  
163. what you want to do, then what do you need to do, you know, in your routine?"  
164. As you were saying, you know, "You need to run fast and need to land this", that  
165. sort of thing. So breaking it down into smaller, easier goals to achieve, I guess  
166. approach goals or mastery goals, you know, be a lot more beneficial to the

167. athlete.

**CM** 15:40

168. Yep. Yeah. So as a coach, you've noticed, UM, you've got better results

169. from gymnasts....

**P3** 15:50

170. Yeah.

**CM** 15:52

171. Who, who used those types of goals?

**P3** 15:55

172. Yep.

**CM** 15:57

173. Does anyone else have any views on this?

**P2** 16:01

174. From an athlete perspective as a WAG athlete, I was an individual athlete. No

175. one else's results or performance determined my outcomes and I was terrible

176. with setting goals. It was always: the outcome was the most important thing; I

177. had to win. I couldn't fall off the beam. It was always those negative self-

178. thoughts and I never really did amazing in WAG. And then I swapped over to

179. Acro and I was forced to work with someone younger than me and coach them

180. through the process, and it forced me into positive self-talk because I was

181. having to tell this child. "It's OK. It doesn't matter the outcome. We go out, we

182. do our best, we take whatever comes our way". Something that we did this year

183. was actually really cool. We said, “We were going to hope for the best, expect  
184. the worst and accept anything that came our way” and being forced into this  
185. mentality and positive self-talk resulted in amazing results. This year, we actually  
186. went out and won and right before our retains, I am always a mess and Sophie is  
187. the one who calms me because I'm having to tell her, “Hey. So it's OK, we've got  
188. this. We've trained this, we can do this. Let's go out and do our best” rather  
189. than, “we're gonna win. We're gonna win. We're gonna win”, which is what my  
190. mentality was as a WAGer athlete. Like I had to go out and win. I had to stay on  
191. the beam. As an acrobat athlete, it's “we're gonna do our best. We've trained  
192. really hard. It doesn't matter what happens. I've loved the journey with you”.

**CM** 17:37

193. Yeah. Oh, that's so cool. Umm. P4, have you got any views on this goal  
194. setting?

**P4** 17:45

195. Yeah, well, I've I've mostly spent most of my coaching career with junior athletes  
196. on, you know, under the age of 10 to about 11. Umm one thing I found is, yeah,  
197. athletes who have external goals based on results tend to put a lot of pressure  
198. on themselves unnecessarily. The way I put it to my athletes is umm, if you have  
199. if you're top eight in the country, but you can only select six, that doesn't mean  
200. you're bad. It just means that you know, there were other people as well. So  
201. that's what I try and teach the athletes to think of rather than trying to go out  
202. there and trying to beat people who they don't know what they're doing like  
203. they have no idea what the other guys are going to bring to the comp or the  
204. judges are going to score, rather get them to focus on what they're doing in  
205. their actual routine rather than what everyone else's scoring and doing. That's I  
206. found that somewhat successful with. Especially like I said, the 10 year old 11

207. year olds trying to get them to stop being concerned with what other people

208. are doing and focus on what they're doing rather.

**CM** 18:52

209. Yeah. Do you find though, that some young people are just, they just have that

210. in their personality, that they're very competitive and they're very focused on

211. what other people are doing? And if you do find that an athlete who's got that

212. and and they're not very malleable and they're not going to find it very easy to

213. just focus on being the best they can be, they're very focused on trying to beat

214. somebody else, um, what kind of tips would you give them?

**P4** 19:18

215. Uh, well, yeah. I think I had definitely have had some athletes like that, but in

216. those type of instances I tend to look a lot more at the parents because those

217. athletes who put a lot of pressure on themselves to win rather than do well,

218. tend to have parents that also push them to win (laughs) is very much my

219. experience. I had an athlete last year that was very much getting to the elite

220. pathway, but the main issue with his stress around competing was actually his

221. mum. It's it's not....I haven't really dealt with any hyper-competitive athletes that

222. don't have parents that are the same, as of yet.

**CM** 19:59

223. You're looking at the cause though, and if that's the cause, then how do you

224. deal with that? How do you deal with a gymnast, who has got those parents

225. who are, like, "come on, you've got to go out there and get gold. You got to be

226. better than your other gym mates".

**P4** 20:17

227. Yeah, that that was tricky. I had multiple meetings with the mum to try and align  
228. her with our goals and to make sure we're using the same type of language in  
229. the gym and outside to make sure we're goal setting appropriately. But at the  
230. end of the day, I think it came down more to management of the expectations.  
231. You know, making sure that his training was focused around his skill  
232. development rather than what scores he was getting or you know, it was and it  
233. definitely was a consistent issue and I didn't really have a way to solve it. I just  
234. had a way to kind of try and manage it to make sure that what the words I was  
235. using during training to try and get him to get better was more around the  
236. actual skill itself rather than how that would help him achieve better results.

**CM** 21:06

237. OK. Thank you. That was really useful. Has anyone else got any experience like  
238. that?

**P1** 21:15

239. I think when I look at the rhythmic girls, particularly from our state, umm, they  
240. are very capable in training. But then when you take them out of their home  
241. environment and you put them at Australian Championships, they fall apart at  
242. the seams. And they make one mistake and it catapults into numerous mistakes.  
243. And so when that occurs, you see that when they go into their next apparatus,  
244. when they're in the warm-up hall, they are training so hard because they believe  
245. that they need to try and get their mind back into focus. But sometimes they  
246. disappoint themselves because they go out and do exactly the same thing  
247. again. So it's like there's a combination of trying to prove a point to themselves,  
248. but also there is a big expectation, I think, of trying to either please their

249. coaches or their parents. And you do notice a lot when their parents are not in  
250. the environment of watching them or they can't see them, they perform better.  
251. So and that's me looking very much objectively. I'm you know, I'm just standing  
252. watching.

**CM** 22:38

253. Yes. So what you're talking about, P1, is perfectionism. And that that was the  
254. next thing I was going to start talking about with the group. So there are  
255. the two types of perfectionism that I looked at with this research was self-  
256. oriented perfectionism and socially prescribed perfectionism. So what you were  
257. describing there, P1, is the pressure of trying to be perfect in front of people  
258. that matter, and that could be parents, could be coach and it could even be  
259. teammates. If there's a team event, I wonder if there's a different level of  
260. pressure on gymnasts when they're working as a as a gymnast team compared  
261. to as an individual?

**P1** 23:23

262. Mmh.

**CM** 23:25

263. So yeah, so that's another aspect that we'll discuss is self-oriented perfectionism  
264. and socially prescribed perfectionism. What are your views on perfectionism in  
265. general? Do you think that perfectionism is an important aspect of gymnastics,  
266. or do you feel like that it's it causes a lot of problems?

**P2** 23:53

267. I think both! So because of the nature of the sport, it is execution based. You are  
268. going out trying to be the best that you can possibly be because the way the

269. sport works is any error you get deducted, you don't necessarily get rewarded  
270. for doing well. You get penalized for doing errors, so I think to be a great  
271. gymnast, you have to be a perfectionist. "Do you want to be striving to always  
272. get better and better and better at these skills because your competitors are  
273. doing the exact same?" And I think that's why the sport in nature attracts people  
274. like us who are perfectionists who want to be perfect at things and get things  
275. amazing and drill them again and again and again. Otherwise you would just  
276. become bored of the sport where, "OK, I've achieved the skill. It's not perfect,  
277. but I don't wanna work it anymore because I've done it". Umm, so I think you  
278. need to be a perfectionist within the sport. However, I think because of the level  
279. of perfection here, it's them that a lot of our athletes have, it puts on a lot of  
280. pressure, whether it's external or internal of whilst they did a really good job, it's  
281. still wasn't perfect. "I could have done more to be better".

CM 25:05

282. Hmm (laughs). And there's perfectionistic concerns versus perfectionistic  
283. strivings in the sports psychology research. So perfectionistic concerns is, "I feel  
284. extremely stressed if my performance does not go perfectly", versus  
285. perfectionistic strivings, "I strive to perform gymnastics as perfectly as possible",  
286. which is what you were just saying, um, P2. So, what do we do with people  
287. when we're coaching young people, how do we deal with their  
288. perfectionistic concerns and turn those into perfectionistic strivings? What kind  
289. of tips could you give?

P2 25:46

290. I think I've always seen it from striving. I've never really seen it from the  
291. concerned side, so that's a really interesting concept to me to actually have a  
292. think about. I think the language that we use and the self-talk, and as a coach

293. talking to the athletes, the language that you use as well would be really  
294. important in that it's about going out and doing your best rather than going  
295. out and striving for that outcome. So it's, "Did you perform your best on the  
296. day, to the highest ability that you can, striving to perform well?" rather than,  
297. "Did you perform perfectly to get a gold medal?"

CM 26:28

298. Yeah. Has anyone else got any other views on perfectionism?

P3 26:35

299. I think P2's pretty much said it as best as possible. Um and yeah, I think a lot  
300. of it does come down to the language that is used in the gym, from the  
301. coaches. Umm. And I guess the culture that the coaches develop in the gym, um  
302. sets the gymnasts up, to succeed, you know, to go out, to do their best. Umm,  
303. but yeah, it's unfortunate that we're a sport that we get, you know, get you:  
304. don't start with zero and end points for your performance. You start at 10 and  
305. lose them for every little thing that you do wrong. So yeah, I think we're going  
306. to have a perfectionist trait in ourselves and our athletes.

CM 27:2

307. Yeah.

P3 27:17

308. But yeah, a lot of it comes down to the language that we use. Umm. And yeah,  
309. just having the kids, yeah, as P2 said, strive to be the best and go out and \  
310. just give it their all and be OK with making mistakes.

**CM** 27:33

311. Yeah. So what about the idea of going out and striving for excellence? Does that  
312. language, we talk about language, the word excellent, is that less pressure than  
313. perfect?

**P3** 27:48

314. Yeah. I think if you had a good, good definition of what is an excellent  
315. performance or what is excellent. Like when I hear excellence and perfect next to  
316. each other, I think they're miles apart and I would like to strive for excellent and  
317. excellent performance might be you pointed your toes this time. You know  
318. umm, or, you know you had good height in your elements or whatever,  
319. whatever. Yeah, I think, yeah, even just using that terminology could make a bit  
320. of a difference. I think especially in probably female athletes, P4 might  
321. have something to say from the male athlete perspective!

**CM** 28:25

322. Yeah.

**P4** 28:33

323. And yeah, I think with boys I don't, we don't really have an issue with  
324. perfectionism much. It's more the coaches job to almost try and get  
325. them to think more about it (laughs) rather than trying to manage their own  
326. perfectionism. Boys is very different than girls.

**CM** 28:52

327. Yeah.

**P4** 28:53

328. Yeah, right.

**CM** 28:53

329. Yeah. Yeah, that's reflected in the research that it's mainly a female problem.

**P4** 28:59

330. Yep.

**CM** 29:02

331. OK, with striving for excellence, so Brené Brown, you might know her, she's a  
332. psychology researcher. And she talked about the difference between using the  
333. words “striving towards excellence” and “aiming towards perfectionism, or being  
334. perfectionistic”. And she said through her research of working with people who  
335. use the term “I'm trying to, I'm trying to reach excellence”, that they're more  
336. flexible in their mindset. So flexibility in gymnastics, what do you think that  
337. could mean? I mean, I'm just thinking for me, an example might be “OK. I'm not  
338. going to be good at this sport, but I could maybe try something else, so maybe I  
339. wanted to be an Acrobat, but I'm better off being a rhythmic gymnast or  
340. something like that”. Having a flexible mindset, what do you think about  
341. flexibility to avoid the kind of anxiety that gymnasts may have because they  
342. want to be perfect?

**P3** 30:12

343. Comes back to having a bit of a like a growth mindset as well, as opposed to a  
344. fixed mindset. Yeah. UM, it would be terrific if all athletes and coaches, you  
345. know, were flexible in their mindset. Umm. And yeah, we're OK with, you know,

346. not being great at one thing, but trying something else. Umm.

**CM** 30:40

347. How could we put that into coaching education?

**P3** 30:44

348. Yeah. Um, that's a good question that is It's not a coursework thing, obviously.

349. You know there's I think in the current coaching education, you know, the

350. accreditation coaching coursework, there's zero psychology in any, yep, every

351. course I've presented, there's no psychology framework I guess or mind setting

352. framework. So and potentially some presenters, as an assessors may not be the

353. right people to teach that sort of stuff. Umm, so I think yeah, educating coaches

354. that needs to come from psychologists, sports psychologists, counsellors. Yeah,

355. you have that education and just provide a face-to-face workshops would be the

356. best thing, but for a lot of clubs and coaches that'll come down to cost.

**P1** 31:49

357. But that's where, perhaps from our perspective, is that, so obviously through our

358. State Squad, which is obviously targeted group of athletes that are looking for

359. selection onto the state team is one avenue.

**P3** 31:59

360. Mm-hmm.

**P1** 32:05

361. But then is it the fact that we haven't had a coach conference for several years,

362. but that could be an important area that is covered in the Coach Conference

363. because I think athlete mental health and wellbeing is paramount at this point in

364. time. It was probably not taken into consideration that much 10 years ago, it  
365. was there, but not talked about to the degree that it is today, and I agree, Ben.  
366. Because you would probably cause you've done the FIG 2 Academy coaching?  
367. Three?

**P3** 32:45

368. Right, yeah.

**P1** 32:46

369. Yeah. And so they would have covered psychology in that, wouldn't they?

**P3** 32:50

370. Heaps, yeah.

**P1** 32:51

371. Has anyone in the in the focus group done the FIG 2 Coaching Academy course?  
372. Because I'm not sure at what point the Federation actually brings in the  
373. psychology, I know they have it at three, but I don't know if they have it at two  
374. and so whilst some of our coaches go on to do Academy too, they're  
375. developing young coaches and upcoming coaches for quite some time before  
376. they get to that level. So P4, you probably be able to shed some light as to at  
377. what point do you think that you would have liked to you'd like to get some  
378. support from attending workshops with with the psychology focus like this?

**P4** 33:38

379. I think it becomes more important once you get to about your advanced  
380. coaching level. I think anything before then you're not really dealing with  
381. athletes like this or that, only age range where they can suffer from this stuff

382. much. Definitely. When you get to a, your advanced and you start, you know  
383. having level 7 plus athletes that particularly in MAG, we don't really see any of  
384. the junior guys struggling with any of this stuff. So I'd say probably around that  
385. advance levels when you'd really want to start having coaches be trained up  
386. properly, especially around the psychology of things.

**CM** 34:20

387. OK, so talking about the flexibility then, if a gymnast is trying, is struggling  
388. with a skill, at what point would a coach go in and say “we're going to  
389. disengage with this goal” and being flexible, “how about you do this instead?” Is  
390. there any room for that or with routines, do they have to do everything as  
391. prescribed?

**P2** 34:48

392. It depends on what level they are. So routines are prescribed until level 6 in  
393. most gyms, sports some gym sports. There might be a little bit more room for  
394. wiggle room, but in all those gym sports that I've done or coached, we had  
395. prescribed routines from level one to six and the kids have to do those skills. So  
396. there is no wiggle room if the kids can't do the skill. We keep working at it.  
397. When they get to level 7 and up in gym sports release that I've been involved in.  
398. There's a lot more wiggle room. So you have special requirements, so they have  
399. to hit a handstand or do a release move or whatever. The special requirement is,  
400. but other than that you can pick and choose your skills. So when you're asked  
401. struggling with a particular skill, you can change it up. So for example on vault,  
402. if an athlete has a fear of going backwards, they get to choose not to use  
403. yuchenko, they can do a handspring vault instead, but until level 7 you don't get  
404. those leniencies.

CM 35:46

405. Yeah. OK. We're going to. I'm just going to show share with you the results of  
406. my research, so I did a what's called a systematic review. I won't bore you with  
407. the details, but basically involved looking at thousands of studies, then bringing  
408. them down to more specific areas and then eventually it came down to 10  
409. studies that I found from the UK, the USA and Taiwan. These were youth sports,  
410. so we're talking about people under the age of 24 and they competed in soccer,  
411. handball, rugby, basketball, volleyball, figure skating and athletics. So to look  
412. at these specific predictors, which are the type of goal that the gymnast is  
413. setting and the type of perfectionism that they're using, and how these relate to  
414. the outcomes which are performance anxiety or burnout, I had to look at all  
415. sports, I had to look at all Olympic sports because there wasn't enough  
416. information just looking at gymnastics, so one of the limitations of my study is  
417. that I'm looking at all youth sports. Some of these are team sports and some of  
418. these are individual sports, but they are applicable because we're still looking at  
419. young people, looking at males and females. And obviously, gymnastics is both  
420. an individual sport and a team sport. Um, when I then looked at the results of  
421. the of the studies. I'm gonna read you the findings. There were seven findings, so  
422. we talked about the ego goal, which is "I want to be better than other people".  
423. The ego goal orientation is positively associated with performance anxiety in most of  
424. the studies, so most of the studies indicated that if you go into a competition  
425. thinking "I'm I want to be better than other people", then the chances of you  
426. experiencing performance anxiety are going to be higher. Then I  
427. looked at the mastery goal. Uh research mastery goal, if you remember, is "I  
428. want to be the best I can be for myself. I want to try and strive for excellence or  
429. for perfection". This is negatively associated with performance anxiety.  
430. The next thing I looked at was self-oriented perfectionism.  
431. Self-oriented perfectionism is the focus on myself

432. "I want to be perfect for me". This is positively associated with  
433. performance anxiety, but so is the other type of perfectionism  
434. so socially prescribed perfectionism, which is "I want to impress  
435. my coach", not impress, but "I want to be the best I can be from my coach or for  
436. my parents or for my teammates". That is also associated with performance  
437. anxiety. So what I'm trying to say here is that it doesn't matter what type of  
438. perfectionism; it's associated with performance anxiety. Umm. Self-oriented  
439. perfectionism is negatively associated with burnout. So what that means is if I'm  
440. trying to be the best I can be for myself, this is a way of preventing burnout and  
441. socially prescribed perfectionism, which is trying to impress, "I want to be the  
442. best I can be for my coach or for my teammates or for my parents", this is  
443. positively associated with burnout. Uh, so to so to just summarize. I'm going to  
444. go through each one, and then I'd like your feedback if that's OK. And then what  
445. I'm hoping is from this that we can come up with some coaching tips that might  
446. be useful because it's based on empirical evidence. We're looking at studies that  
447. are robust, good quality studies and we can use this to help us to be better  
448. coaches with regard to avoiding burnout, but also helping gymnasts with  
449. performance anxiety. So using this evidence to generate a discussion. So to  
450. summarise, this review supports previous research, which is indicated that ego  
451. goals are more likely to be associated with performance anxiety than mastery  
452. goals. So taking that on board, what could we do in terms of education to help  
453. coaches with that?

**P3** 40:39

454. I think it's just you can come down to be as simple as providing coaches some  
455. direction of, you know, specific examples like these are your ego goals: "I must  
456. win. I must do this. I must do this". Umm, you know, and stating that there um  
457. linked to performance anxiety. You know what are some, I guess, signs and

458. symptoms of someone experiencing performance anxiety and then, yeah, listing  
459. whatever. Now some mastery goals. You know, “instead of this, try this”, umm,  
460. whether it be discussions in coaching workshops, handouts or fliers provided to  
461. athletes. You know, you see heaps of nutrition. What to eat? What not to eat?  
462. Fliers come out. Umm. They're going to be as simple as A1 pager. Umm, which  
463. is in, you know, yeah, athlete language. So that they can understand it. Um, that  
464. could be even put up in around the gym.

**CM** 41:51

465. Yeah. So some posters with that kind of information.

**P3** 41:53

466. Yeah.

**CM** 41:57

467. Do you think it's easy for coaches to understand this?

**P3** 42:02

468. Umm some yes, some no! I think some of the old-school coaches, it might be  
469. quite difficult to change some thought processes and their own personal  
470. experiences. Umm, but I think a lot of the younger coaches coming through  
471. now, particularly those who have been in the sport as athletes themselves, umm,  
472. you know in the last 10 to 15 years do have a better understanding of these  
473. sorts of things, but still lots and lots and lots of room for growth in the  
474. performance anxiety, psychological, athlete-wellbeing area.

**CM** 42:50

475. I remember my daughter gave up gymnastics during COVID lockdown her

476. excuse was giving up because of COVID lockdown, but I know that she was  
477. feeling the pressure because she had been picked as someone who had some  
478. talent and she suddenly felt the pressure and she felt the pressure by watching  
479. her teammates, she was watching her teammates doing skills that she couldn't  
480. yet do, and this was putting her off. And I feel like this is something that's pretty  
481. typical so, particularly as we know this is a "girl thing", the performance anxiety.  
482. What kind of things should coaches be looking out for? Because they're  
483. probably not going to tell their coach how they're feeling.

**P3** 43:35

484. Looking out for. So I guess most relevant is on beam, probably the most  
485. nervous apparatus of the lot. You see the, you know athletes you know. If we're  
486. looking specifically signs and symptoms, they can get nervous. You can  
487. definitely tell when an athlete is a lot more or nervous. They start, you know,  
488. playing with their hair a lot more, wiping their hands together, needing more  
489. chalk. Umm. Balking of skills as well. Umm, you can say that mood changes  
490. quite a fair bit. Umm. And then for some skills and themselves, you can sort of  
491. get to avoidance levels as well, or you know, how "can I go get a go to the toilet  
492. or go to the change rooms?" Umm, those sorts of things. Umm uh.

**CM** 44:32

493. I don't think that my daughter's coach would have known that she was  
494. comparing herself unfavourably with the other girls.

**P3** 44:40

495. Hmm.

**CM** 44:42

496. She just would have said to the coach. I don't want to do gymnastics anymore.  
497. It's not for me, so they probably wouldn't have been much of an exploration as  
498. to why she was doing well and could have got the skills if she'd just persisted,  
499. but decided she didn't want to do it and it was because she was comparing. So  
500. this is what I mean by ego. Her ego was, "I want to be I want to. I don't want  
501. them being better than me. I want to be as good as them". She was comparing  
502. herself unfavourably with the other gymnasts instead of just using the mastery  
503. mindset, which is I want to be the best I can be for myself. I want to strive. I want  
504. to land this difficult skill and it doesn't matter what other people in the gym are  
505. doing". So how does a coach manage someone like that?

**P3** 45:43

506. I think build up a good relationship with the athlete. Get to know them and I've  
507. bypass all of this gymnastic stuff like get to know the athlete and talk to them.  
508. Umm, and if coaches and athletes can develop a good personal relationship,  
509. then it does make it easier, umm, potentially for, you know, athletes to speak up.  
510. Umm. And for coaches to have a discussion around these sorts of topics and it  
511. doesn't happen overnight! It takes years and years and years and you know, it's  
512. still might not be at a point. But you know, if you can sort of breakdown some  
513. barriers as a coach, at least, you know, put it out there that it's OK to talk or, you  
514. know, instead of talking write down your problems on a piece of paper and give  
515. them to me. Umm yeah, I think a lot of it comes down to communication and  
516. relationships.

**P2** 46:44

517. Yeah, I agree. We can't do anything if we don't know, so we need to make sure  
518. that we're communicating not only with the athlete but also the parents. The  
519. parents are going to have a lot more insight to what their kids are feeling then

520. what we do at times so whether that's parent meetings, whether that's group  
521. meetings, I think athlete education needs to step up a lot as well for the athletes  
522. to process, "OK, this is what I'm actually feeling like. I'm just not sad or upset or  
523. anxious. This is why I'm feeling this way. This is how I process it. This is how I  
524. communicate it" and I think workshops where the parents, athletes and coaches  
525. are involved would probably be the best. So everyone's getting the same  
526. information. Everyone's on the same page and know how to work together  
527. towards a common goal.

**P1** 47:33

528. I agree there because I see from the outside. Sometimes, and you do get a lot of  
529. athletes that you can see they you can't, you can't break into how they're  
530. feeling, and obviously everyone's got different personalities, but I think the ones  
531. that are have the biggest ego problem where they wanting to be as good as  
532. others, they're not communicating with anyone.

**CM** 48:05

533. Yeah. So what I'm thinking about doing after we've had this discussion is  
534. obvious. I'm going to make a report and I'm going to give you a copy of that  
535. report, but I think what we're what I'm hoping to do is to list the  
536. recommendations to sort of make dot points or or at least a summary of some  
537. of the things we've talked about today, which I hope will be useful for GWA and  
538. it will be using the ideas that you have have generated here. Umm, I just  
539. before we finish though. I just wanted to to also mention that, UM. To avoid  
540. burnout, a self-oriented, perfectionistic style is preferred over a socially  
541. prescribed perfectionistic style. So there's hard evidence now to say that if we  
542. want our gymnasts to avoid burnout, they do need to be more focused on self-

543. oriented perfectionism rather than socially-prescribed perfectionism.

P1 left the meeting

CM 49:13

544. So what can we say? What can we do to help gymnasts to focus more on self-

545. oriented perfectionism? And do we need to talk to them about burnout and

546. what that actually is?

P4 49:31

547. Um well, yeah, in regards to burnout, I know I this year tried to be very open

548. with my senior level athletes about sorry, senior season athletes, about why

549. we're loading up the way that we are throughout the year. You know talking

550. about when we're going to start increasing routine load when we're going to

551. decrease it when we're going to start tapering, all that, like trying to get them to

552. understand why we're doing a certain workload at what part of the year. That

553. actually seemed to help quite a bit this year because not only did it seem like

554. the athletes understood more, but I also seem like they were more able to talk

555. to me about when they feel a little bit burnt out because they understood that

556. at this point you're going to feel a little bit tired because you've done a lot of

557. routine work or at this point you won't. So I think that kind of helped just to

558. educate the athletes a little bit more about why we increase or decrease the

559. training load a certain time of year and in what sense the training load might

560. increase or decrease, whether it be routines or skills or strength development or

561. you know you're doing a lot of basics work, but that means your volume

562. increases or you know. So trying to get the athletes to understand it actually

563. meant that they were more able to communicate with me when they were

564. feeling a bit burnt out.

**CM** 50:52

565. OK. Do you think it's something that gymnasts aren't aware of until they're  
566. actually experiencing it?

**P4** 50:59

567. Yes.

**CM** 50:59

568. So you think they don't understand what burnout really is until they're  
569. experiencing it? OK.

**P4** 51:04

570. No, I don't think. I don't think that I have any idea really, and I really only had, I  
571. had one athlete definitely burnout this year. He was doing multiple gym sports  
572. and when he got to Nationals he was a wreck. And yeah, I don't, I don't think  
573. anyone really knew what was happening with him. And he definitely didn't until  
574. we kind of got to nationals and I was able to have a chat with him and say, like,  
575. you need to calm down (laughs) basically you need, you need to pace yourself a  
576. little bit. You need to make sure you take care of yourself, otherwise you're  
577. going to feel there like how you feel now, yeah.

**CM** 51:37

578. Yes. What do you think caused the burnout?

**P4** 51:42

579. Well, he was doing them another gym sport, so he was going Nationals for both  
580. and between state trainings and competitions and stuff he ended up, we only  
581. realised too late that he was because of the two gym sports, he hadn't had a day

582. off in about 5 weeks, so he trained seven days a week for about 5 weeks

583. between like I said, State trainings for both units, sport competitions for both.

**CM** 52:00

584. OK.

**P4** 52:09

585. You know when he wouldn't be training MAG, he was training acrobatics. So it it

586. needed to be more. Uh, I take more communication between myself and his

587. Acro coach about and realising the load that he was going through a bit earlier.

588. But I mean now that was not much we can do to change that now, but definitely

589. going forwards, managing that a bit better, yeah.

**CM** 52:35

590. Yeah. So obviously, perfectionism doesn't necessarily cause burnout, but there's

591. just this association. And what the research indicates is that, as I said, socially-

592. prescribed perfectionism is worse than self-oriented perfectionism. And that

593. there's a greater association between socially prescribed perfectionism and

594. burnout than the self-oriented. So it would it would make sense for coaches to

595. try and get the their athletes to adopt the more self-oriented perfectionism. So

596. what kind of tips could we provide for coaches, and do we need to actually

597. explain to gymnasts what burnout is so they can start to understand the

598. relevance?

**P2** 53:29

599. Yeah, I think more education for athletes is needed. So they did something this

600. year called the State Squad and athletes who were expected to make a state

601. team this year.

[REDACTED]

P1 joined the meeting

P2 53:39

602...they did a workshop with a psychologist and whilst it was very quick to run  
603. through, nothing was covered in depth, I still felt that it was amazingly helpful.  
604. They did cover burnout. They did cover poor sleep hygiene and we came away  
605. as athletes, even the younger ones, going oh, you know what I am burnt out and  
606. I have got terrible sleep habits, but we didn't come away with a knowledge of  
607. how to improve upon them. So we were like, yeah, I am burnt out and I am  
608. feeling terrible and I'm not sleeping and I'm probably not eating very well, but I  
609. don't really have the tools and the knowledge to know how to fix that as an  
610. athlete. And I think what R was saying was bang on. I actually think [REDACTED]  
6 [REDACTED] is a step above a lot of the other clubs with their programming. I don't  
612. think a lot of other clubs have the knowledge or the programming to ramp up  
613. during off-season and then taper. I know my club, we definitely don't taper,  
614. which we need to right before Nationals and the other clubs that I've heard  
615. about also don't have that sort of programming where they're looking at  
616. increasing load and then increasing intensity and then tapering off before  
617. comps. So I think a lot of the clubs ramp up intensity, both physically and  
618. mentally, right before Nationals. I think the coaches also get stressed right  
619. before Nationals and that's when they're starting to yell a little bit more and  
620. then like, "Run it again! Do it again. More repetitions!" The athletes are feeling  
621. the pressure mentally and physically by that point, and I don't think it's helpful  
622. for anyone to be ramping up and not tapering off during that time. So I think it's  
623. important for the athletes to know what burnout is. And I think it's important for  
624. the coaches to understand how to prevent burnout.

**CM** 55:28

625. OK. so there is a burnout, an athlete burnout questionnaire. Umm, so this is um,  
626. it's like a screening tool. So in psychology, we have these screening tools which  
627. are not like in-depth psychometric tests, but it just gives us an idea of where  
628. someone's at. So I'm working at the moment with people who have depression  
629. and but they may also have anxiety and stress, so I give them what's called a  
630. DASS, which is a screening tool. And it just gives them some questions and then  
631. they just answer it. And when I add them up it gives me a score and I get an  
632. idea of where they are with their depression, anxiety and stress. In sports  
633. psychology, we have these screening tools as well, so the ABQ is an Athlete  
634. Burnout Questionnaire and you will, if you wanted to, I could give you a copy of  
635. this. And this is something I wanted to discuss with you. How useful do you  
636. think it is for coaches to actually be using screening tools? Let me just read it  
637. out to you. So the Athlete Burnout Questionnaire, there's 15 questions and it's  
638. using a Likert scale from one to five. So it's almost never to almost always, and  
639. here are some of the questions: I'm accomplishing many worthwhile things in  
640. gymnastics. So they then give themselves a score from one almost never to five  
641. almost always. Here's another one: I feel so tired from my training that I have  
642. trouble finding energy to do other things. Do you think there are pros...what are  
643. the pros and cons of coaches using screening tools like this one?

**P2** 57:00

644. I think it's sorry you go.

**P4** 57:01

645. Umm. From my experience of managing the MAG program at [REDACTED]  
646. the main issue we have with coaches doing things like that is I, unless the  
647. coaches are super, yeah, interested in their coaching and very disciplined and

648. are willing to go above and beyond, which is not as common, it's very difficult to  
649. get coaches to run these things at you know, separate to coaching and itself  
650. from what I've found you know it's not easy to get some coaches to do it. The  
651. ones who are planning on coaching long term and have you know, a  
652. very deep interest in the welfare of their athletes. But from a general sense of  
653. view, I think coaches struggle like it's hard to get coaches to do that stuff  
654. considering they probably think it's an extra job on top of their coaching.

**CM** 57:58

655. Umm. Yeah. Do you think if they were given some coaching or some education  
656. and how to look for the signs of burnout and then to give this screening test  
657. and some education in how to use it, if they were given that education, do you  
658. think it would be useful?

**P4** 58:21

659. I think it would always be useful. Any education is always useful as it is, but I  
660. think we would have to pick and choose the coaches who we really want them  
661. to apply it. Like I said, I think you know part of my job is making sure that I kind  
662. of pick the coaches who are interested in invested long-term. And although  
663. everyone getting information would be beneficial for not only their groups but  
664. also the club as a whole, I think being selective about who I actually want them  
665. to follow through with it because for some other ones, it's almost like trying to  
666. get, you know, like trying to get them to do things they're not willing to do?

**CM** 58:59

667. Yeah. Would it be better to have a mental skills coach to come in and work with  
668. the club and for the club to then report to the mental skills coach who  
669. specialises in this area, that they're worried about a few gymnasts to point them  
670. out and then for the mental skills coach to administer these tests instead?

**P4** 59:23

671. Possibly, but I think that comes down to a financial thing. Again, what I try and  
672. encourage very heavily is especially in the MAG junior program right now,  
673. because all of our coaches are still very new, I try and pinpoint other coaches  
674. that are doing a fantastic job and I try and get them to make sure they, you  
675. know, they watch what they're doing and how they're managing athletes. Like I  
676. know there's one coaching a WAG program who's exceptionally good at having  
677. a great relationship with the kids and, you know, being able to pick when an  
678. athlete is starting to struggle. And I try to really encourage the junior coaches to  
679. watch that. But again, how much they do and how much they take from it really  
680. depends on who the coach is and how, how invested they are long term, it's  
681. becoming fairly difficult.

**CM** 1:00:14

682. OK. So just I think we're sort of coming towards the end of this meeting now.  
683. One other thing I just wanted to point out then is that if we now know that any  
684. type of perfectionism can correlate with performance anxiety, whether it's self-  
685. oriented or socially oriented, how can we change the way a gymnast cease  
686. performance anxiety and reframe it to being a positive? I'll give you an example.  
687. When I was working with a wrestler, she came to me and she said I'm really  
688. gutted. I'm going to do so badly in this in this tournament because I'm I started  
689. getting the flu and she got really started getting really bad performance anxiety  
690. and I turned it round to: that feeling you're getting in your stomach, that  
691. nervousness is your fire, and you're going to use that as your power to get  
692. through it. So instead of it working against you, your body's working for you. So  
693. that was an example, a really sort of simple one, of how I try to reframe the  
694. nervousness and the stress that she was feeling. So how can we, as coaches

695. come up with some tips to help gymnasts who are struggling with performance  
696. anxiety and reframing it?

**P3** 1:01:48

697. Yeah, we like coaches, it just comes down to providing coaches with as much  
698. information as possible. I think some coaches are afraid to say the wrong thing.  
699. You know you're trying to help an athlete, but if you say something wrong um,  
700. we'll say it, you know in the wrong way and it's perceived the wrong way then it  
701. can have a negative effect on the athlete. Umm.

**CM** 1:02:21

702. Have you ever heard of what I what I just described there changing the way an  
703. athlete is perceiving the somatic nervousness so that it's so that they're instead  
704. of feeling, "Oh my God, I'm...

**P3** 1:02:32

705. Yep.

**CM** 1:02:37

706. ...I'm shaking. This is so bad!" that you can actually get them to go. "Well, hang  
707. on your heart's going faster, then you're more alert. You're more focused", and  
708. trying to encourage them to accept what's happening in their body rather than  
709. trying to fight it.

**P2** 1:02:56

710. My coach, Chris, he's really good with younger athletes. He tells them that the  
711. butterflies in their belly are going to help them fly. So I think that's really cute.

**P3** 1:03:07

712. You should try that R with the boys! [Laughing]. I think coaches as well, like  
713. you know we've got groups of 10 to 12 kids, umm, different ages, different  
714. abilities. Umm, their learning different skills at different times. There's coach, a  
715. psychologist, a nutritionist, a physio, you know, strengthening, conditioning  
716. coach. I think it would be absolutely wonderful if we can, you know, have all of  
717. these different tools in our toolkit. Umm, but I think a lot of coaches would say  
718. that, you know, like gymnastics and physical prep and drills is, you know, the  
719. main focus and all of these, you know, supplementary stuff isn't as important  
720. when I know all of us here are probably thinking well if you get the mental side  
721. mental game sorted first, then everything else will actually improve. So  
722. providing education around that and support to coaches, financial support to  
723. clubs. Um and yeah, changing, changing the mindset of all of the coaches out  
724. there to think well, like, you know, gymnastics is a mental game, and if you fix  
725. that and work on that, then that's going to go a long way.

**P1** 1:04:41

726. Um P3 following on from that a very interesting conversation I had with my  
727. younger daughter that went to the Olympics was she had a lot of ups and  
728. downs was making mistakes, and undervaluing her ability and so continually  
729. never achieving the score that she was capable of. And when she worked with a ,  
730. performance psychologist, within six weeks he turned around her whole  
731. performance and her whole approach to what she was doing. And she  
732. mentioned to me the other day, she said, "the hours an athlete will save if they  
733. get their performance psychology right will be massive and they won't have to  
734. train nearly so hard". And I thought that actually was a really valid comment  
735. because we underestimate how much the brain influences the outcomes.

**P3** 1:05:42

736. Yep, sometimes, you know, the coaches may be wanting it, but some parents  
737. think, “ohh my child doesn't need a psychologist because they're not, they're .  
738. not crazy, so I'm not going to send them there”. So you know, changing THAT  
739. mindset as well.

**P1** 1:06:00

740. And I do think it's that I think it's the athletes being able to express and being  
741. able to get, get them to understand that it's OK to say that things are not going  
742. well and to reach out for help, but also for their parents to understand that they  
743. need to support that. Because I see from this side, as you say, you as coaches,  
744. you're trying to have all these tools to your kit, but that's not necessarily your  
745. role.

**P3** 1:06:35

746. Yeah, it goes back to what P2 said earlier it was like education. Having  
747. everyone in the same room together, or who I don't know who said that.

**P1** 1:06:40


748. Yep.

**P3** 1:06:42

749. Yeah, having their education coaches, athletes, parents altogether hearing the  
750. same language during the same thing, all being aligned. Umm, just to, you  
751. know, help the athlete.

**CM** 1:06:56

752. Are there any concluding comments that anyone wants to make? So I think that



753. those were very good concluding comments. Thank you so much all of you for  
754. your contributions. So, during this focus group, I presented my research results  
755. to you and we discussed them and we looked at some ways that we could use  
756. that to perhaps come up with some tips for coaches to help them with their  
757. athletes umm to prevent them from getting burnout and to help them with  
758. performance anxiety, umm and ways that they can manage performance  
759. anxiety. So thank you all so much. I will finish writing the report and come up  
760. with some bullet points, summarise this and then this will be sent to GWA.  
761. Thank you.

**P1** 1:07:54

762. Thank you very much, Clare, and thank you very much for all the work that  
763. you've put into it because I believe that with the information that you'll share, it  
764. will really help us move forward in this space. Because as I say, I think it's an  
765. essential area that we need to provide education and as we've all summarised,  
766. it's not just the coaches, it's athletes, parents and coaches. So thank you. We  
767. really appreciate it. We're very excited to be able to see what we can do with it  
768. all, so thank you.

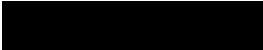
**CM** 1:08:29

769. Yeah. Great. OK. Well, enjoy the rest of your days and thank you. See you all  
770. again soon.

**P2** 1:08:35

771. Thanks, Clare. Bye.

**Identified themes:**



- Improving culture

- Verbal communication

- Parent-coach-gymnast alignment

- Relationship building and mentorship

Education and wellbeing

## Appendix I: Standards for Reporting Qualitative Research (SRQR) Checklist

No.	Topic	Item
Title and abstract		
1	Title	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended
2	Abstract	Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions
Introduction		
3	Problem formulation	Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement
4	Purpose of research question	Purpose of the study and specific objectives or questions
Methods		
5	Qualitative approach and research paradigm	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist/interpretivist) is also recommended; rationale
6	Researcher characteristics and reflexivity	Researchers' characteristics that may influence the research, including personal attributes, qualifications/ experience, relationship with participants, assumptions, and/or presuppositions, potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability
7	Context	Settings/site and salient contextual factors; rationale
8	Sampling strategy	How and why research participants, documents or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale
9	Ethical issues pertaining to human subjects	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues
10	Data collection methods	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale

11	Data collection instruments and technologies	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study
12	Units of study	Number and relevant characteristics of participants, documents or events included in the study; level of participation (could be reported in results).
13	Data processing	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/deidentification of excerpts
14	Data analysis	Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale
15	Techniques to enhance trustworthiness	Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale
Results/ findings		
16	Synthesis and interpretation	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory
17	Links to empirical evidence	Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings
Discussion		
18	Integration with prior work, implications, transferability and contributions to the field	Short summary of main findings; explanation of how findings and conclusions connect to support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalisability; identification of unique contribution(s) to scholarship in a discipline or field
19	Limitations	Trustworthiness and limitations of findings
Other		
20	Conflicts of interest	Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed
21	Funding	Sources of funding and other support; role of funders in data collection, interpretation, and reporting

## Appendix J: Psychoeducational Brochure for Coaches of Gymnastics

### **Mental Health Guidelines for Gymnasts**

*Tips on helping your gymnasts enjoy the sport and avoid negative outcomes such as performance anxiety and burnout.*

Perfectionism and motivational factors (e.g. goal orientation) are associated with performance anxiety and burnout. Coaches can help prevent burnout and performance anxiety by communicating healthy mindsets.

#### **What is performance anxiety?**

Performance anxiety is both mental and physical. There is an emotional response to performing a skill/ routine and negative thoughts, an inability to concentrate and worry. Physically, there can be muscle tension, tremors, racing heart and other autonomic responses such as feeling sick. Some level of performance anxiety can be considered normal and can help a gymnast to perform well, but for many, it is a major hindrance.

#### **Signs your gymnast is experiencing performance anxiety:**

- Avoidance type behaviour such as pulling out/ arriving late ;
- Jittery behaviour;
- Unusually quiet;
- Appears stressed out/ tearful/ excessively worried.

#### **Gymnasts susceptible to performance anxiety:**

- Excessively self-critical;
- Females;
- Young, inexperienced gymnasts;
- Ego focused (wanting to beat others/ impress others);
- Use avoidance goal setting.





### **What is burnout?**

Burnout is always undesirable. It involves reduced accomplishment, feeling exhausted, and a devaluation of achievements.

### **Signs your gymnast is experiencing burnout:**

- Appears exhausted;
- Lacks motivation and is demoralized;
- Performance issues;
- Appears resentful toward gymnastics;
- Discusses resignation.

### **Vulnerabilities to burnout:**

- Heavy participation in another sport;
- Perfectionistic concerns;
- Ego focused (wanting to beat others/impress others).
- Avoidance goal setting.

### **Perfectionism:**

Perfectionism is unavoidable in gymnastics due to deductions for mistakes during a performance.

### **Striving for perfection:**

Striving towards perfection can be part of goal setting. The gymnast can make a positive goal, striving towards a perfect performance. This is considered healthier than perfectionistic concerns.

### **Perfectionistic concerns:**

A gymnast may become preoccupied with deductions. If they are making goals such as "I must not get a deduction", they are putting extra pressure on themselves. This type of goal setting should be avoided.

Self-oriented perfectionism: involves mastery-type goal setting. This should be encouraged. Socially prescribed perfectionism involves trying to impress others by being perfect. This is considered undesirable.

## Healthy Mental Skills

### **Motivation:**

Ask your gymnasts to make approach goals such as “I want to perform a leap” rather than an avoidance goal such as “I must not fall”. Approach goals always focus on positives and avoidance goals always focus on negatives.

Ask your gymnasts to focus on mastery: being the best they can be in order to please themselves. They should feel pride in themselves as they progress through skills. Do not encourage your gymnasts to focus on impressing anyone, including teammates, the coach or their parents. Likewise, do not encourage the gymnasts to win medals as this can set them up to fail. Many elements are outside their control, such as the performance of other gymnasts and the quality of judging. They need to feel in control of their performance and be happy they did their best on the day. We call this a mastery mindset.

### **Good rapport:**

Coaches can help their gymnasts by being friendly, approachable and caring. They can build trust in their gymnasts so the gymnasts feel comfortable to tell them when they are experiencing psychological distress.

### **Education:**

Explain what performance anxiety and burnout look like. Reassure gymnasts that performance anxiety is normal and the way they think about themselves can help protect them from it.

### **Get parents on board:**

Parents also need to encourage their children to adopt a mastery mindset. They can do this by asking their gymnast if their presence in the audience will help/ hinder them, encourage them to be proud of themselves rather than try to impress anyone else, avoid using “win/ beat others” type language.

### **Reframe perfectionism:**

If the gymnast appears to be struggling with excessive self-criticism and you can see this is impacting on their performance and enjoyment of the sport, you could discuss “striving towards excellence” as opposed to perfectionistic language. If you wish to maintain perfectionism, given the demands of the sport, try to avoid perfectionistic concerns, such as “I must not have any deductions” and aim for perfectionistic strivings, such as “I want to give my best performance”.

*In association with research undertaken by Clare McCall, Edith Cowan University.  
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