Investigating the Experience of Stress and Coping in Elite Athletes

Date of submission (Original): July 2022

Date of submission (Corrections): December 2022

Word Count: 29, 892

Author: David Raymond Barlow

In partial fulfilment of an MRes degree awarded by Bournemouth University

Abstract

Stress and coping are both a part of the human experience, affecting every area of life. In elite sporting environments, stress is often magnified with the expectations and demands that are placed upon athletes, therefore effective coping mechanisms are vital to an athlete's performance and well-being. This study investigates the experiences of stress and coping among elite athletes. Previous research has split stress sources (in athletes) into three categories; performance, organisational and personal. Studies have tended to focus on the three stressor categories as individual phenomena; therefore, this study aims to explore the sources of stress as a group to investigate the effect they have on each other.

Seven athletes (n= 5 male, n= 2 female) from six different sports (n= 2 football, n=1 Rugby Union, n= 1, hockey, n=1 cycling, n = 1 dance n = 1 fell running) participated in the study. A qualitative methodology was selected, specifically semi structured interviews lasting approximately1 hour. This was selected to obtain rich, in-depth insight on how athletes cope with the stressors they face and the impact the stressors and coping mechanisms have on them. The results were then analysed using thematic analysis and have been presented as such in the results and discussion section. The findings revealed that the standard three-category stress model is insufficient for usage within academic research. This is because it doesn't allow for any interaction between the three categories of stress sources (performance, organisational and personal). A new model evidencing the interactions between the sources of stress was proposed. This would enable the sources of stress to inter-connect whilst still keeping their independence as stand-alone stressors. However, as this model was proposed from a small data sample, further research will be required to assess the effectiveness of this emerging new model in the sporting context.

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Chapter One: Introduction

The phenomenon of stress is widely debated within academia, and as such, there are a variety of definitions (Turner et al. 2020). Selye (1936) was the first to define stress clearly, suggesting that "stress is the non-specific response of the body to any demand" (p.32). Seyle's definition originated from physics, not the social sciences, and has an exclusive focus on physiology; thus, its suitability for sports psychology research is questionable. Gatchel (1996) progressed the definition by increasing its specificity, defining it as "the process by which environmental events threaten or challenge an organism's well-being and by which that organism responds to this threat" (p.560). This definition acknowledges that there is both a threat and response but still doesn't actively accommodate psychological factors. Thus, the most commonly cited definition is from Lazarus and Folkman (1984), which states: "psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus and Folkman 1984, p.19). Whilst there are varying definitions, most academics agree that two events occur when experiencing stress. The first is a stimulus (called a stressor). Then the second is a response, which can be physiological (for example, sweating, an increase in heart rate, tension in the muscles) or psychological (for example, anxiety, fear) (Giurgiu and Damian 2015). Stress can come from either the individual or their environment (Reece et al. 2010).

By its very nature, sport involves exercise, and there has been a significant amount of research into the correlation between exercise and the experiences of stress and mental health across most demographic groupings (Slavich 2016). The research demonstrates that exercise moderates stress, i.e.engaging in exercise will help reduce stress and increase well-being (Stanton and Reaburn 2014). It is evident in a wide variety of demographic groupings such as: university students (Grasdalsmoen et al. 2020; Zhao and Wang 2020; Herbet et al. 2020), teenagers (Pascoe and Parker 2019), children (Jia et al. 2021; Frühauf et al. 2021), adults (Stanton et al. 2019), the elderly (Wang et al. 2022; Silva et al. 2021), women with cancer (Patten et al. 2021), men with mental health issues (Mcgale et al. 2011; Carless and Douglas 2008), inpatients with existing mental health illnesses (Mazyarkin et al. 2019), people with diabetes (de Souza et al. 2019), twins (Duncan et al. 2020), cancer survivors (Smoak et al. 2021), military veterans (Caddick and Smith 2017), pregnant women (Kesim et al. 2018) and refugees (Gerber et al. 2021). However, for many elite athletes, sport brings additional stressors and it can threaten them as they feel they don't have sufficient resources to cope with the additional stressors (Mclean and Penco 2020). Beable and colleagues (2017) found a correlation between high levels of personal stressors and experiencing depression in high-performance athletes. They posited that athletes have stressors which are relatively unique

to the sporting industry, such as performance expectations, recovering from injuries, being released from their contract, public scrutiny and overtraining. However, elite athletes should be classed as a different demographic within this context as they have self-selected into an experience of sport and exercise which is highly stressful (Losty et al. 2019).

Stress can significantly affect cognitive thought and performance levels. At low levels, stress can be a performance enhancer; it can increase motivation and help someone adapt to their environment (Shahsavarani et al. 2015; Eisenberger and Aselage 2009). However, high-stress levels are said to result in physiological, psychological, and social problems, causing severe damage, both to individuals (Djuric et al. 2008) and organisations and their goals (Mitchell et al. 2018; Temple and Gillespie 2009). This is because it has been reported that stress harms psychological skills such as memory (de Quervain et al. 2000), decision-making (Nieuwenhuys et al. 2015), executive functions (Diamond 2013) as well as creativity and concentration (Hargrove et al. 2013; Shalley and Perry-Smith 2001). Therefore, it is vitally important to identify and understand the sources of stress which can cause harm to individuals so that appropriate coping mechanisms can be introduced to enable healthier and more productive sporting professionals (Garber et al. 2019).

In 2002, Noblet and Gifford undertook a qualitative study of professional Australian footballers. They reported that the participants identified non-performance-related sources of stress (such as job insecurity and balancing football with other commitments). At the time, the vast majority of sporting literature focused its attention solely on competitive stressors, whether that was before the event (e.g., Feltz 1992; Gould et al. 1992), during the event (e.g., Filaire et al. 2001; Gould et al. 1992; Martens 1987), or directly after the event (e.g., Halvari and Gjesme 1995; Grove and Pargman 1986). Despite this, sporting performance is only a part of an athlete's lived experience (Noblet and Gifford 2002). However, key authors Fletcher and Hanton (2003) argued that simply splitting stressors into 'competitive' and 'non-competitive' is still too generic and is insufficient in explaining an athlete's sources of stress. Therefore, they posited that sources of stress should be categorised into competitive, organisational, and personal. These categories were posited to try and improve both the theory and practice of coping with stress within sport. They were based on a more authentic reflection of the nature of the stressor and where it originated. This can help ensure that the most suitable interventions are created to help athletes cope with each source of stress (Fletcher et al. 2006).

Therefore, in this study, stress is examined in terms of the antecedent causes and initially explored and subsequently categorised into three categories of stressors; personal, organisational and competitive. Personal stressors are stresses that directly and primarily affect one's personal life (Fletcher et al. 2006). for example, struggling to balance sport and studying

(Noblet and Gifford 2002) or financial problems (Thelwell et al. 2007). Competitive stress occurs when players believe their capacity to meet competitive demands is insufficient (Gould and Rolo 2004). Common competitive stressors include fitness level (Biggins et al. 2018), major competitions (Holt and Hogg 2002), pressure (Rist et al. 2022), opponents (Hanton et al. 2005) and personal skill level (Thelwell et al. 2007). Organisational stress was first introduced as "work-related social psychological stress" (Shirom 1982, p.21). In 2006, Fletcher and colleagues proposed a definition: "An ongoing transaction between an individual and the environmental demands associated primarily and directly with the organisation within which he or she is operating" (Fletcher et al. 2006, p.329). Fletcher and colleagues' (2006) definition is more commonly used as it helps integrate professional and amateur sports, as not all athletes and staff are paid by their sporting organisations, even at the elite level. Therefore Shirom's (1982) definition of work-related organisational stress is insufficient for elite athletic contexts (Rumbold and Didymus 2021). However, the primary reason for adopting Fletcher and colleagues' (2006) definition is that it is regarded as a critical text within organisational stress (Rumbold and Didymus 2021).

Beyond identifying stress, arguably, the ability to cope with all sources of stress is vital for surviving and thriving in every facet of life (Garcia-Martinez et al. 2021), including within elite sports (Mesagno 2010). Effective coping mechanisms are vital to an athlete's performance and well-being to buffer the impact of negative stressors. Coping is intimately related to the phenomena of stress (Krohne 2002). Again, Folkman and Lazarus's definition is the most commonly used who define coping as "the cognitive and behavioural efforts made to master, tolerate, or reduce external and internal demands and conflicts among them" (Folkman and Lazarus, 1980, p.223). Research has shown differences between the experiences of stress and coping in athletes compared to the rest of the population (Croson and Gneezy 2009). However, there are also differences amongst the varying contexts of elite sport.. For example, Park (2000) investigated the coping methods of Korean elite athletes in 41 different sports. Park stated that team sports players need more coping methods than those participating in individual sports. Combined with other studies, it is plausible that team sports players face differing stressors from individual sports players. For example, team sports players depend on others for performance outcomes, spend time in and outside competition with fellow team players and often get less time with coaches and backroom staff (Holt and Hogg 2002). However, it is currently unclear how the social connections within a team affect an individual's coping strategy (Holt and Hogg 2002).

Research has primarily concentrated on advocating for healthier responses to an inherently stressful environment (Le Fevre et al. 2006). However, stress is not necessarily bad or

unhealthy. Eustress is a form of stress that leads to greater performance as they become more productive (Hargrove et al. 2013), as it can increase motivation and act as an inspiration to accomplish goals. Eustress is "a positive phenomenon that ameliorates the biological effects of distress" (Berk 2001, p.83). In contrast, distress is considered to have the opposite effect and causes a reduction in performance (Crum et al. 2013). Distress is negative stress in which coping strategies cannot return an individual to psychological homeostasis (National Research Council 2008). This is because distress leads to reduced cognitive functions such as attention and memory, which reduces athletes' decision-making (LeBlanc 2009). Stress caused by anxiety is a situation that many athletes face. Beck and Dozois (2011) suggest how individuals process and appraise stressors can significantly affect their mental health. It has also been suggested that being unable to regulate one's emotions can lead to anxiety issues (Gross 2008).

1.1 Rationale

Lee et al. (2017) report that elite performers are devoted athletes who are fully ingrained into an environment where stress and pressure are consistent experiences. In elite environments, the expectations and demands placed upon athletes often magnify stress. Some research suggests that up to as much as 50% of elite athletes detail that they have experienced high levels of distress within their sporting context (Davoren and Hwang 2014; Gustafsson and Skoog 2012). To this end, it is widely agreed within the research base that of the three categories, organisational stressors cause the most intense experience of stress (Krinsteansan et al. 2013). Regardless of the setting, these stressors can be organised under three main headings: personal, organisational and competition. However, categorising stressors in this way evidently fails to show how or if they interlink and overlap. Thus, this study will simultaneously examine all three to explore their connections. There has been some success connecting categorised stressors due to coping methods (Dale 2000). For example, in Holt and Hogg's (2002) study, they found that the players coped with stress from the coaches by using avoidance, or their social resources, either outside the club (e.g., parents) or inside the club (teammates), even though they were competing for selection.This is in line with previous research on individual sports, which shows that many stressors are faced and dealt with similarly. However, there was a significant difference between Holt and Hogg's (2002) study and previous research. In Holt and Hogg's study (2002), players communicated to keep concentration and deal with any stressors. This is a contextual difference, as individuals wouldn't have teammates alongside them on the field of play. However, this result didn't determine whether the players found this adequate for their coping needs or whether it affected the team's subculture (Holt and Hogg 2002). Therefore, this research study aims to describe the experiences of stress and coping among elite athletes and evaluate their coping strategies' effectiveness to help practitioners aid

their athletes in coping with stress more effectively.

In addition, most research on stress and coping have focused on one or the other despite being intrinsically linked as a continuous, ongoing process of appraising situations. This research aims to bring them together by exploring both the player's experiences of stress and their experiences of coping with discovering whether there are common themes in how players experience and cope with stress.

1.2 Aims and objectives

In order to understand the stress experienced by athletes and the effectiveness of the coping strategies utilised, this study aims to explore 1) athletes' experience of stress 2) whether the interactive properties associated with sources of stress impact upon their ability to cope.

This aim will be fulfilled through the following objectives:

1. To critically review the current stress and coping literature to establish a literature-backed purpose for this study.

2. To report athletes' experience of stress and the effectiveness of any coping strategies currently used.

3. To critically understand the nature of interactional properties and their impact upon coping.

4. To provide implications for practice to enable athletes to buffer stress sources better.

5. To make recommendations for future research in order to further knowledge surrounding the sources of stress and an athlete's coping mechanisms and their effectiveness.

1.3 Research Structure

The research structure will conform to the structure laid out in table one:

Table One: Research Structure Outline

Chapter	Title	Description
1	Introduction	The concepts of stress and coping are introduced, which helps form the rationale and the aims and objectives which are provided.
2	Literature Review	A review of the existing literature surrounding stress and coping, before stating the gaps in the literature and the purpose of this study.
3	Methodology	The research method will be described and justified. An evaluation of the method is also provided.
4	Results/Discussion	The results of the data collection will be shown in appropriate ways whilst being interpreted and analysed.
5	Conclusion	The thesis concludes by explaining whether the aims and objectives have been met before offering implications for practice and recommendations for future research. The study's strengths and limitations are noted.

1.4 Background Context

This study was undertaken between 2019-2022, amid Covid-19. A pandemic led to the country of research being locked down and many athletes' matches and training cancelled. However, most athletes were in regular contact with their clubs and were set tasks and training sessions to keep their fitness level up for the lockdown. Whilst stress and coping are ever-expanding topics within sports psychology research, this situation makes this piece of research unique as no stress/coping research has ever been undertaken in this specific environmental condition. Whilst this research is *not* a Covid-19 study, Covid-19 did change the landscape of both sport and the broader world to an unprecedented degree and provided a noteworthy context for this study.

Chapter Two: Literature Review

A literature review is an in-depth assessment of the current research and understanding of a specific subject (Winchester and Salji 2016). A literature review can help build a solid foundation for all academic research, regardless of the field (Snyder 2019). This is because a well-constructed literature review can help a researcher develop a greater understanding of the subject matter and further theory development (Webster and Watson 2002).

This is because literature reviews help consolidate current knowledge to identify the gaps within the literature and how this research study could progress knowledge of the stress and coping phenomena (Anastasiadis et al. 2015). In addition, the literature review also aided the researcher in assessing the data and justifying its suitability and impact, as data without context can be futile (Winchester and Salji 2016).

This literature review will provide a background and critical analysis of the current literature on stress before narrowing it down to stress within sport, specifically before moving on to coping. It will end with the literature gaps and the study's purpose.

2.1 Stress: Historical Overview and Definition

Across the Western world, there is an epidemic of stress. In 2018, the Mental Health Foundation conducted the United Kingdom's (UK's) largest-ever survey on mental health, finding that three-quarters of people had felt so stressed they had feelings of being unable to cope. However, stress is not a modern phenomenon. Ancient thinkers such as Aristotle were aware of stress's adverse effects. Nevertheless, it was not until 1859 that the concept was first reported scientifically when Bernard found that the internal medium of the living organism is not merely a vehicle for carrying nourishment to cells. That is, cells are surrounded by an internal medium that buffers changes in acid-base, gaseous (O2 and CO2) and ion concentrations and other biochemical modalities which minimises changes around biologically determined setpoints, thereby providing a steady-state" (Bernard, cited in Fink 2017, p.1). This is now known as homeostasis. Thus, historically, stress was primarily researched and defined in purely biological terms. As stated at the beginning of the introduction, Selye (1936) was the first to define stress in the modern era; "stress is the non-specific response of the body to any demand" (p.32).

However, Seyle's definition has come under significant criticism due to its lack of specificity. In 2001, Pacak and Palkovits undertook an experiment and showed that different stressors (such as pain, temperature change, and immobilisation) affect different brain regions; however, it

remains unclarified if this disproves Selye's definition as it only featured two neurohumoral systems (Fink 2017). In addition, Fink (2017) reported that it has been accused of being too biochemical and that he has excluded cognitive factors such as memory and attention (Girotti et al. 2017). Many original critics criticised it based on the belief that the mind and body are separate (Fink 2017), which is heavily debated in academic circles (Wright 2010). However, although their reasoning may not have been correct, research has shown that cognition is significantly involved in an individual's physiological and psychological stress responses (Ehrhardt et al. 2022). Research has demonstrated that when humans assess a situation as stressful, they need to provide more psychological resources to cope with the extra stress (Lazarus 1999; Kahneman 1973). Thus, psychological stress can affect cognitive function in the short term; however, it is unclear whether that has a positive or a negative effect. Some research studies suggest that if an individual is worried about something, then they are less able to focus on the task in front of them because they have to allocate extra psychological resources in order to cope with the stressor, and thus their cognitive function has been reduced (See: Scott et al. 2015; Stawiski et al. 2006; Sliwinski et al. 2006). However, other research studies suggest that task performance and cognitive functions can be increased under stress. For example, a study by Starcke and colleagues (2016) suggests that stress can slow the demands of executive functions and increase cognitive function in most functions (attention, task management, planning and coding) but increases with monitoring.

Furthermore, other studies have shown that when participants have deadlines or feel threatened, their cognitive performance increases (Booth and Sharma 2009; Kofman et al. 2006; Chajut and Algom 2003). Kohn and colleagues (2017) suggest that it is because neural connections moderate the effects of stress. Despite the contrasting outcomes of the short-term effects of stress on cognition, researchers are unanimous in demonstrating that those diagnosed with chronic stress had increased levels of cognitive decline relative to their age (See: Thayer et al. 2021; Sarkar and Franks 2018; Korten et al. 2014; Aggarwal et al. 2014; Andel et al. 2011; Wilson et al. 2007 Wilson et al. 2005).

During the first World War, stress started to pique the interest of medical officers (Crocq 2000) because of a condition that British doctor Charles Myers (1915) first named shellshock. Its symptoms had physiological and psychological elements such as being unable to speak coherently, panic attacks, crying, trembling, paralysis, heart troubles, deafness, blindness, tiredness, confusion, nightmares, heart problems and being sick (Linden and Jones 2014). Eighty thousand soldiers had been diagnosed with shellshock, leading to about 15% of the discharges (Pols and Oak 2007). Whilst working in Africa, the neurologist Frederick Hanson introduced some basic recovery methods such as sleep, sedation and good food, which he

claimed could cure soldiers so they would be sent back into combat after a few days (Pols and Oak 2007). Whilst his techniques did help somewhat and were undoubtedly far more compassionate than most military medical officers who dismissed such things, the reality of recovering from the stress and trauma of war was far more complicated (Artiss 1997). Despite this, those diagnosed with it were treated with hostility instead of sympathy. They suffered terrible damage to their reputation in the military and with civilians back home because people believed that shellshock was due to cowardice or mental fragility (Jones et al. 2006).

During the second world war in 1945, Grinker and Spiegel studied the impact of stress on human behaviour whilst working for the American air force. The two psychiatrists claimed that the psychological responses in warfare were triggered by the relentless, brutal experiences of combat rather than mental fragility and cowardice (Jones et al. 2006). This was based on having worked with thousands of soldiers suffering from various mental illnesses, such as what is now known as Post Traumatic Stress Disorder (PTSD). They asserted that "it would seem to be a more rational question to ask why the soldier doesn't succumb to anxiety, rather than why he does" (Grinker and Spiegel 1945, p.119). They stated that every soldier has his breaking point, which they estimated would be between 3-12 months of active combat duty (Weinstein 2013). Farrell and Appell (1944) stated that one of the greatest lessons to come out of the 2nd World War was that it forced psychiatrists to "shift attention from problems of the abnormal mind in normal times to problems of the normal mind in abnormal times" (p.19). This is because stress is unavoidable in everyday life (Addison and Yankyera 2015).

Whilst recovering from the aftermath of the war, it was apparent that elements of day-to-day life could also induce stress, similar to the experiences of soldiers in combat (Tappenden et al. 2022). This demonstrated that stress was far more complicated than previously thought, potentially affecting our everyday lives (Orner and de Loos 1998). As people started to take stress research more seriously, three primary concepts emerged; stress as a response, a stimulus and a transaction (Papathanasiou 2015).

2.2 Conceptualisations of Stress

To know how athletes cope with stressors, it is vital to understand the conceptualisations of stress (Walinga 2018). Previous research has created three primary views of stress: Firstly, reaction to stress, i.e., 'Stress as a response '(Seyle 1956). Secondly, a focus on the environment: i.e., 'stress as a stimulus' (Holmes and Rahane 1967) and thirdly, the relationship between an individual and their environment: i.e., 'stress as a transaction' (Lazarus and Folkman 1984).

2.2.1 Stress as a Response

The ‘Stress as a response model’, developed by Hans Selye (1956), describes stress as a biological response and is viewed through his general adaptation syndrome (GAS) model. Selye acknowledged the pitfalls of his previous theory, namely that he had excluded psychological factors. He states that “by removing stressors from our lives, by not allowing certain neutral events to become stressors, by developing proficiency in dealing with conditions we do not want to avoid, and by seeking relaxation or diversion from the demand” (p.20). This demonstrates the role that the mind and emotions have on one’s ability to cope with stressors in two separate ways successfully. Firstly, it demonstrates that coping is a learned skill as one has to develop proficiency (Seyle 1956, p. 20) to consistently and effectively cope with stressors (Brammer 1992). Secondly, it seeks to regulate an individual’s bodily response and diminish the emotional consequences of the stressor (Schoenmakers et al. 2015) by ‘seeking relaxation or diversion from the demand” (Seyle 1956, p. 20). The regulation of emotion is the intentional and unintentional means that an individual uses to change how they experience and express emotion (Gross 1989). By diverting one’s mind and emotions away from the stressor, one may not experience adverse emotional distress. Their attention is diverted to a new task, so they are using their psychological resources to complete it instead of coping with the demand. However, this was not just pioneering work on stress but coping, too, as it included coping within the model, notably at the alarm and resistance stages (Walinga 2018).

The ‘stress as a response’ model proposes that in the first or ‘alarm’ stage, cortisol is produced as the hypothalamus is activated by a potential threat and thus starts to create corticotropin which activates the anterior pituitary to produce adrenocorticotropin (Allen and Sharma 2021; Walinga 2018). This stems from the fight or flight response theory which Walter Cannon (1915) developed (Robinson 2018). The fight or flight theory states that hormones such as cortisol and adrenaline, as well as neurotransmitters such as dopamine and serotonin, are released from the sympathetic nervous system, which will help prepare an individual to either attack the threat or flee to safety (Fink 2016). If the stressor continues and the individual can adapt, the physiological responses will fade, and the individual begins to develop resistance; if compatible with adaptation, features of the alarm reaction disappear, and resistance develops (Fink 2016). Stress is of enormous benefit because it enables the preservation of homeostasis and helps humans survive (Yaribeygi et al. 2017).

Resistance is the second stage of the stress response, where the goal is to accomplish optimal arousal and thus resist the stressor (Taylor 2015). If the stressor is adequately resisted (either reduced or removed), the individual will likely experience eustress and maintain psychological homeostasis (Brown and Waslien 2003). However, if not, they will enter this model’s third and

final stage, and the individual will enter ‘exhaustion’. If there is no respite, then death will likely follow. If an organism’s resources continue to deplete, it can lead to maladaptive conditions such as depression and heart failure. (Ganzel and Morris 2011).

2.2.2 Stress as a Stimulus

Holmes and Rahe (1967) developed the Social Readjustment Rating Scale (SRRS) based on the theory that stress was a stimulus and that stressors were significant life events that required an adjustment. It is made up of 42 life events which were attributed a number based on the amount of adjustment an individual would have to make after experiencing them. The life events included grief, moving house, going through a breakup and being fired. Holmes and Rahe postulated that stress was an independent factor in the health-stress-coping equation. They theorised that the higher the score, the higher the chance the individual had or would have a physical or mental illness. Although there was some relationship between SRSS scores and ill health (Johnson and Sarason, 1978; Rahe et al. 1970), it has come under significant criticism for not addressing the differing effects stress can have on individuals. (Rasool 2021) and for effectively reducing stress to a noun for certain organismic conditions (Sanders 1983). Rahe did later add discernment based on psychological factors such as emotion into his research (see: Rahe and Arthur 1978), but the stress as stimulus model still missed vital elements that significantly affect stress and coping skills, such as social support, previous experiences and personality types (Walinga 2018).

Firstly, it assumes that change is naturally a stressor, and there is a body of research that would arrive at the same conclusion. For example, some studies report that the most significant effect of change in workplaces or organisations is increasing staff members’ stress levels. For example, see (Baillien 2019; Smollan and Morrison, 2019; Bamberger et al 2012; Fugate et al. 2012; Oreg et al. 2011; Dahl 2011). In all these cases, increased stress levels were focused on negative stress or distress. For example, Dahl (2011) found that whilst going under significant workplace changes, employees were more likely to be prescribed medication for stress-linked illnesses (such as high blood pressure and depression). Contrastingly, other studies show that change is not necessarily stressful and can have a positive effect. Brummelhuis and Bakke (2012) suggest that change leads to positive stress as it can help employees become more engaged with work. Ultimately, the stress experienced by an individual when a change occurs in their environment is partly due to individual differences (Wisse and Sleebos 2016) and what the change is (Bareil et al. 2007); Wisse and Sleebos (2016) propose that an individual is most likely to experience stress when the change affects their identity.

The other assumption is that life events demand the same levels of adjustment across the

population (Butto 2019). Human beings utilise coping mechanisms (intentionally or not) and will vary by how much particular events affect them depending on how they have interpreted the stressor. However, this model suggests that the individual going through the life event had no control over how much it affected them. Regardless of whether an individual can control or make a level of adjustment, perceived control can affect the intensity of a stressor. Perceived control is the belief one has in their ability, resources and opportunities to accomplish positive outcomes or avoid adverse effects through one's actions (Wallston et al.1987). It was first proposed by Rothbaum and colleagues (1982). Perceived control increases our understanding of the degree of effectiveness of different types of coping mechanisms. Therefore, this study's main contribution is that it suggests an important role of control in the stress process and deepens our understanding of the differential effectiveness of different coping strategies for different individuals (Britt et al. 2016). Perceived control consists of two strategies; primary perceived control is whereby an individual tries to change the environment to fit their goal. Secondary perceived control is a strategy whereby individuals try to change their wishes to reflect the environment (Pagnini and Langer 2016). Secondary control is generally used when primary control is impossible (the individual cannot change their environment), so they learn to accept the environment instead. (Morling and Evered 2006). Typically, a sense of perceived control is associated with the belief that one's actions control outcomes and that one has the skill to enact those actions (internal locus of control). An external locus of control is believing external factors will control the outcome (Rotter 1966). Perceived control demonstrates higher levels of performance and well-being (Hardin-Fanning and Ricks 2017).

2.2.3 Stress as a Transaction

To expound on stress as more of a dynamic process, Lazarus and Folkman (1984) created the transactional model of stress and coping. This model states that stress occurs as a result of a (continual) transaction which takes place between a person (including multiple systems such as cognitive, physical, emotional, neurological) and their environment (Walinga 2018). Lazarus and Folkman's model (1984) has two appraisal sections, primary and secondary appraisals.

Individuals have considerable differences in their appraisal of and response to stressors (Van Well et al. 2008; Dickerson and Kemeny 2004). The primary appraisal is where the individual assesses whether a particular stressor is stressful to them. Cognitive appraisal is the key to this, as each individual will have different assessments of stress. There are generally three ways stressors can be appraised. The first way to appraise it, is 'irrelevance'; i.e. the individual believes it doesn't affect them and therefore doesn't worry about it, and no changes occur. The second way is 'benign positive'; where the stressor is evaluated as positive and wouldn't have a detrimental effect on well-being, and thirdly, it can be appraised as 'stressful' i.e, the stressor is

assessed as unfavourable, and the results will harm their well-being (Matthieu and Ivanoff 2006). Secondary appraisals are assessments that help move the focus from the stressor onto a strategy to aid in dealing with the stressor. They are responsible for shifting attention and facilitating coping (Folkman and Lazarus 1991). If perceived as stressful, one of three outcomes usually occurs: firstly, harm/loss, which results in damage to self or social esteem, secondly, as a threat in which the individual experiences a perceived pain or thirdly, it is viewed as a challenge, which allows for the opportunity for gain and growth (Lazarus and Folkman 1984).

Whilst the individual will tend to move from primary appraisal to secondary appraisal to assess their coping options and resources (Lazarus 1991), at times, secondary appraisals may determine the initial relevance of a situation (e.g. Jamieson 2018; Blascovich and Mendes 2010). Research from Harvey and colleagues (2010) demonstrates that cognitive appraisal significantly affects the stress response. If the individual determines that the situation threatens them, they will implement a subsequent coping response. For example, a longitudinal study of patients suffering from heart failure conducted by Alhurani and colleagues (2018) suggested a correlation between the intensity of a stressor and the harm/loss assessment and event-free survival. Additionally. They found that those who appraised stressors as a harm/loss cognitive were more likely to implement disengagement coping mechanisms, which lead to poorer health outcomes and are less likely to have an event-free survival. This is supported by other studies that have shown that assessing a stressor in the harm/loss or threat categories results in physiological illness and reduced work competency. However, the opposite is true when assessed as a challenge (O'Connor et al. 2010; Maier et al. 2003).

2.2.4 Cognitive, Motivational- relational Theory

The Cognitive motivational-relational model was adapted by Lazurus (1999) when he developed the 'cognitive motivational-relational theory of stress and coping', which states that coping constantly appraises stressors. For instance, how athletes cope with stressful situations may change their view of how controllable the environment is and can even alter it (Bhanji et al. 2016). Stanisławski (2019) stressed how essential it is that through Lazarus' work, coping is not seen as a one-dimensional set of components but as a whole process. The relationship between motivation and coping with stress occurs in an individual assessment, as they also assess two other components of the stressor: the motivational relevance and the motivational congruence (Smith and Kirby 2009). The motivational relevance factor has been reported to impact the intensity of the stressor, i.e. one will evoke a more substantial response when it is pertinent to the individual (Alhurani et al. 2018). The second component of the cognitive motivational-relational theory is motivational congruence. Brunstein (2010, p.1) defined it as

"the degree of correspondence between what people consciously seek to attain and what they nonconsciously would like to do in predicting well-being experiences." Schultheiss and colleagues (2012) gave the example that someone can have an intense accomplishment motive whilst having explicit goals and values that do not accentuate them and vice versa. In both cases, the motives and goals are incongruent (Schultheiss et al. 2012). This can lead to various issues, including distress (Schüler et al. 2019), reduced self-image (Semmer et al. 2015), burnout (Maslach and Leiter 2008) and somatic symptoms (Brandstätter and Hermen 2016). The reverse is also true; those who have motivationally congruent goals report better mental health and fewer somatic symptoms (Schultheiss et al. 2012). However, it must be noted that studies have explored elements that impact motivationally congruent goal selections in the laboratory (Roch et al. 2017; Strick and Papies 2017; Rawolle et al. 2016). However, it has not addressed how the goals that one pursues in day-to-day life can be made motivationally congruent (Roch et al. 2017).

2.3 Eustress and Distress

Stressful situations are almost exclusively seen as a negative experience since stress is often seen as an unpleasant experience when one feels or knows they are unable to cope with the demands they have (Janson and Rohleder 2017). However, research from Ganster and Rosen (2013) found that stress viewed as threatening produced dysfunctional behaviours and stress viewed as challenging produced functional behaviours. As stress can result in either behaviour, it may be that changes in workers' appraisal of the stress explain these paradoxical outcomes. In other words, stress only affects one's well-being or performance levels when one believes the situation is too taxing for the resources available (Lee et al. 2016). Selye (1975) first wrote about these two paradoxical forms and called them 'eustress' and 'distress'. Selye argued that enduring stress that one doesn't find a solution for might lead to fear and agitation, which he called distress. Contrastingly, if stress enhances one's well-being and function, then this is eustress. Eustress is an individual perception of a situation, not necessarily the reality (Velez et al. 2013); thus, eustress is closely linked to self-efficacy. Self-efficacy is one's belief in their ability to execute a particular task (Bandura 1977). If one has little self-efficacy, the individual will interpret the situation as stressful, as the perceived level of resources compared to the task is lower (Makara-Studzińska et al. 2019). When someone has much self-efficacy, they tend to set more difficult aims and are more motivated to accomplish them (Ahmed and Shaista 2011). This leads to feelings of hopelessness and reduced achievement (Heslin and Klehe 2006). Therefore, an essential aspect of experiencing stress and coping is the appraisal of the situation.

2.4 Sources of stress in sport

These sources of stress can be split into three categories: organisational, competitive, and personal (Sarkar and Fletcher 2014). These are important, as understanding the categories of stressors that athletes face can help create more significant knowledge of why players react in specific ways (Finekaso and Treharne 2019). There are many studies investigating physical and sport-specific skills of elite athletes, such as physical fitness (Roczniok et al. 2017), physiological traits (Gilenstam et al. 2011; Farlinger et al. 2007), the prevalence of injuries (Emery et al. 2017; Tuomine et al. 2015), technical skills (Janot et al. 2015) and tactical knowledge (Hristov 2017). However, personal stressors and their link to performance have largely been ignored. The phenomenon of personal stressors in sport is new to academic literature. Historically sports psychology literature has primarily concentrated on competitive stressors (Thelwell et al. 2006). Recently, the focus has shifted towards organisational stress, but personal stressors have mostly gone under the radar. Whilst it gets acknowledged, there is little research specifically on personal stressors. Some research exists, for example, a study by Hanton and colleagues (2005) acknowledged that there were personal stressors (e.g. family issues) unrelated to performance and their respective spotting organisations but still excluded personal stressors from the study to compare organisational and personal stressors. Mckay and colleagues (2008) argue that for practitioners to help sportspeople cope with stressors, they first need to understand the wide berth of stressors they will face.

However, personal stress is significant to research as being able to cope with personal stress could hold the key to protecting players from injury. Ivarsson and colleagues (2017) undertook a meta-analysis of the psychosocial factors and discovered that high levels of personal stress had the most significant connection with injuries in players. Although research from Ekstrand and colleagues (2017) found that organisational stressors were most likely to cause injury, the type of injury depended on the specific stressor. Acute injuries were most likely to occur when the stress resulted from teammate conflict; however, the research didn't examine if it is also true for friendships outside the team. Thus, the literature is unclear whether personal or organisational stress was more likely to lead to injury.

2.4.1 Competitive Stress

Competitive stress is concerned only with stressors directly related to competitive performance (Fletcher et al. 2006). For example, a footballer may take the decisive penalty in a shoot-out. If they interpret the demands as too high for their ability, they will experience competitive stress. This experience can also lead to reduced focus, self-efficacy, and increased agitation (Kaplánová 2021). Being unable to cope with competitive stressors is a significant reason many

athletes fail to perform to their usual standards in stressful competitive situations (Lazarus 2000). Therefore, the sports psychology literature is unanimous in stating that players of all levels need to be able to cope with competitive stressors for three reasons: firstly, for better sporting performance (Adler et al. 2017; Sargeant et al. 2014; Jensen and Wrisberg 2014; Decaro et al. 2011; Bahramizade and Besharat 2010; Lazarus 2000; Mahoney 1989). Secondly, for health and well-being (Forsdyke and Gledhill 2021; Ntoumanis and Biddle 2000). Thirdly, to increase or maintain confidence and self-esteem (Hill et al. 2011; Duhachek and Kelting, 2009; Wilson 2008; Eysenck et al. 2007; Baxter-Jones 1999; Eysenck and Calvo 1992).

Mellaieu and colleagues (2009) investigated the performance and organisational stressors of performance and recreational sportspeople within their competitive sporting environment. Twelve athletes (six elite, six non-elite) were interviewed about competitive and organisational-related stressors they face when preparing for matches. The research found that competitive stressors tended to be similar across all types of sports. This, they suggested, was due to sporting competition being homogeneous. This stands in contrast to organisational stressors, where Mellalieu et al. (2009) found a more comprehensive range of stressors which in turn was reported to reflect the wide range of organisational structures within the sports setting. This was supported by Mckay and colleagues (2008), who conducted a qualitative study investigating the sources of stress within UK track and field Athletes. Mckay and colleagues (2008) found that many of the competitive stressors (e.g. self-doubt, the pressure to perform, perceptions of other athletes) were consistent with other research studies regardless of the sport.

2.4.2 Organisational Stress

Whilst research in the 1990s had started to identify organisational stress such as coach relationships (See: Gould et al. 1993; Scanlan et al. 1991), in 2001, Woodman and Hardy were the first to specifically research organisational stress within the sporting context. Woodman and Hardy (2001) developed an organisational stress model based on Albert Carron's (1982) group cohesion model. The flaw within this model is that it concentrates too much on team-related stressors and misses out on other organisational stressors such as travel and logistics (Rumbold and Didymus 2021). Fletcher and colleagues undertook a series of qualitative studies (see: Fletcher et al. 2012; Fletcher et al. 2006; Fletcher and Hanton 2003), which developed into a new model following Woodman and Hardy's (2001) model. These studies highlighted interpersonal stressors such as spectators, poor relationships with teammates, as well as other organisational stressors such as poor communication with the coach, contract issues and lack of support whilst injured. This is best seen through the framework of Lazarus and Folkman's (1984) transactional theory. This framework provides the foundation for research on

organisational stress in sport based on and focuses on the transaction between the individual and their environment rather than either factor (Wagstaff et al. 2017).

Elite athletes report organisational stress more often than competitive or personal stress, which seems to occur more frequently in training than in competition (Wagstaff et al. 2012; Hanton et al. 2005). Additionally, organisational stressors are the stressors that have the most significant effect on performance (Kristiansen and Roberts 2010), even more than competitive stressors (Kristiansen et al. 2013; Fletcher et al. 2012). The stressors with the most significant impact on performance include the club environment, communication methods and the staff (Fletcher and Hanton, 2003). It has been stated that organisational stressors are inevitable in the sporting context (e.g., Fletcher et al. 2006) and primarily out of the athlete's control (Hanton et al. 2012). Despite this, they can significantly affect the athlete's emotional state and behaviour (Fletcher et al. 2012). However, the research has provided mixed results on whether stressors are more intense during; competitive performance (see: Duncan et al. 2017) or in practice sessions (Smith 2003).

Despite this, some research suggests positives that can come from an athlete's stress. For example, Hardy and colleagues (2017) investigated the development background of Olympic champions. These athletes' experienced childhood trauma (combined with a positive sporting experience) which contributed to their sporting achievements. Other researchers have found similar results, such as Sarkar and colleagues (2015), which have led to academics questioning the practical applications of this knowledge. Of course, it would be entirely unethical to inflict adversity on athletes intentionally; however, coaches including planned disruptions to help the development of young elite athletes may be possible (Sarkar and Fletcher 2017). However, other studies show that players with a complex environment at a young age may have hyper-reactive stress levels via the impairment of cortisol (Maniam et al. 2014). Thus, youth coaches and practitioners must enable young athletes to have a positive sporting experience and help them develop their skills and personality to cope effectively with stress. (Curran et al. 2015).

2.4.3 Personal stressors

Athletes cope more effectively with competitive stress than the average population (Nicholls and Polman 2008) however the literature suggests that they are at a higher risk of mental health issues (Gorczynski et al. 2017; Rice et al 2016) and that the higher level an athlete reaches, (Arnold et al. 2016). Several reasons have been proposed for this: their high physiological workloads (Schinke et al. 2018; Rice et al. 2016), poor coping mechanisms (McLoughlin et al. 2021), a lack of good personal relationships (Crutcher et al. 2018) and non sport related issues

(e.g. grief) (Fletcher et al. 2006). It has been suggested that half of the athletes have symptoms of at least one mental health illness, such as eating disorders, anxiety disorders or depression (Gulliver et al. 2015). Additionally, a study from Foskett and Longstaff (2018) revealed that 47.8% of elite athletes reported meeting the cut-off for signs of anxiety/depression, which Gorczynski and colleagues (2017) suggested is more common than the general population. Within academic research, elite performers have reported experiencing diverse competitive, organisational, and personal stressors (Sarkar and Fletcher 2014; Nicholls and Polman 2007). Personal stressors were the last to be recognised within sports academic research (Wilding 2014). This may be why, out of the three, it is the least discussed by athletes (Weston et al. 2009). However, this is not the only reason. There is also a societal belief that elite athletes are 'superhuman' (Souter et al. 2018, p.1) and their mental health and well-being are frequently ignored despite most people recognising that competitive sport is a stressful experience . Whilst discussions of mental health and personal stressors are improving and increasing within sports, the stigma surrounding personal stress is still a significant block in elite athletes discussing it and seeking help (Roberts et al. 2016; Gulliver et al. 2012). This is due to the fear that teammates or managers will see them as vulnerable or weak (Gulliver et al. 2012; Watson 2005).

2.5 Coping: Definition and Perspectives

Coping is an individual's strategy to reduce the negative effect of a situation which has been assessed as stressful (Lazarus and Folkman 1984). Coping has two purposes: regulating emotional pain and putting behaviour in place to bring about positive change. Whilst the academic community have many definitions of coping (Nicholls and Polman 2007), academics from a range of theoretical perspectives agree that coping can be described as psychological, physiological and behavioural actions to try and endure particular stressors (Endler et al. 1993; Lazarus 1991). As discussed above, competing in sports can be a highly stressful experience, with stress occurring from various sources (Nicholls and Levy 2016) therefore performers must develop healthy coping skills to deal with their competitive stressors, (Gould et al.1999) however these do require sufficient personal and social resources (Lane et al. 2012).

There are two primary perspectives within sports psychology; trait and process. Within the trait approach, people prefer the same coping method regardless of the situation. The process approach states that coping is a dynamic process where an individual's beliefs and goals interact with the current situation (Lazarus1999). Additionally, these are constantly adapting to meet the current needs (Lazarus and Folkman 1984). Nicholls and Polman (2007) undertook a systematic review of coping and found that eleven studies explicitly supported the trait approach but the majority (46) supported/adopted the process method. However, Crocker and

Isaak (1997) found support for both in a study undertaken with youth swimmers. Although this research did deepen our understanding, they missed essential factors such as environment and experience (Nicholls and Polman 2007).

In 1984, Lazarus and Folkman classified coping into problem and emotion-focused dimensions. Problem-focused coping relates to strategies that tackle the problem practically to eliminate the stressor, whereas emotion-focused coping tries to reduce the negative emotional response to the stressor (Schoenmakers et al. 2015). In 1986, Roth and Cohen developed a similar model but categorised coping into 'approach' and 'avoidance strategies. Approach coping is the conscious effort to eliminate it by taking direct action, whereas avoidance coping is removing oneself from the stressor. Whilst these classifications have been heavily used in the literature, they are not without limitations. Two issues have been identified with both (Nicholls and Levy 2016); firstly, the two classifications are not specific enough, and some strategies could be put in both (Compass et al. 2001; Connor-Smith et al. 2000; Coyne and Gottlieb 1996). Secondly, many people incorporate emotional and problem-coping strategies simultaneously, whereas the models only focus on one coping strategy at a time (Ayers et al. 1996).

While Lazarus and Folkman (1984) significantly impacted the development of stress and coping models (Stanisławski 2019), there are further issues with their model. Aldwin (1994) stated that Lazarus and Folkman's (1984) model only allows for people and situational factors affecting one's appraisal. However, previous coping outcomes can also have an impact. Therefore, in the transactional perspective, the environment has a greater involvement in the process than simply being a stressor; it can help shape strategy (Aldwin 1994).

Furthermore, Aldwin (1994) proposed developing Lazarus and Folkman's (1984) transactional model by putting it within a sociological and cultural framework. This strategy could be adapted and expanded to include other beliefs and philosophies as various research studies have shown that athletes cope with stress by allowing 'God's will to happen (Czech et al. 2004). It has been suggested by Yoo (2001) that there is another category of coping that has been named "transcendental coping". Yoo (2001) stated that this type of coping involves giving up effort and allowing destiny to control what happens. Whilst this seems like avoidance coping, it doesn't involve any effort to escape the stressor (Yoo 2001). This was found strongly in Korea and other Eastern nations and not so much in western societies, most likely due to Eastern athletes' tendency to practise zen meditation (Gallucci 2014). This coping strategy adds evidence to Aldwin's (1994) argument that coping strategies should be within a socio-cultural framework to allow for transcendental /religious/existential coping strategies, which many players will utilise.

In 2004, Gaudreau and Blondin created a sports psychology-focused coping model. These researchers split coping into three distinct categories. Task-oriented (i.e. effort is put towards solving the stressor), disengagement-oriented (i.e. attempting to escape the stressor by withdrawing engagement from it), or distraction-oriented coping (i.e. attempting to cope with the stress by engaging in an alternative activity. Gaudreau and Blondin's (2004) model is a more accurate representation of coping and is, therefore, more likely to capture the structure of coping than either Lazarus and Folkman's (1984) model or Roth and Cohen's (1986) model (Nicholls et al. 2016). This is partly due to being a three-factor model, which is a better fit for sports psychology research (Nicholls et al. 2016).

2.5.1 Coping Strategies

Coping strategies are thought processes and behaviours undertaken by an individual to help successfully manage the demands they have appraised as distressing (Carr and Pudrovska 2007). The research suggests that task-oriented coping strategies, ahead of disengagement and distracting coping strategies, are usually the most effective coping mechanism as it is the most likely to reduce stress (Kariv and Heinman 2005). A study by Vander Elst and colleagues (2016) demonstrated that perceived control mediated the connection between well-being and job insecurity. Dijkstra and Homan (2016) proposed that perceived control is the main reason task-oriented coping mechanisms lead to healthier and more desirable outcomes than a distraction or disengagement-oriented coping. Individuals who attempt to face the stressor head-on are more likely to think and feel in control of the situation, which enables them to feel they can change it (Latack 1986). This is because athletes who use task-oriented coping strategies have greater perceived control. In contrast, those who implement a distraction or disengagement strategy are more likely to feel that they cannot change and may have less opportunity to change it as they are not as proactive in finding opportunities. (Dijkstra et al. 2009). Interestingly, in a study of 180 athletes, Park (2000) found that almost 50% (49.7%) of all coping strategies were psychological skills training (a form of task-oriented coping) which were strategies attempting to control their thoughts and feelings. The two most prominent coping strategies were imagery (49.4%) and self-talk (30.6%).

2.5.1.1 Imagery

Imagery is a strategy to control one's thought process to reinterpret negative or stressful experiences (Mellalieu and Hanton 2008). Within the boundaries of sporting performance, imagery is the image or images that an athlete will bring to mind to learn, develop or cope with stress (Morris et al. 2005). Imagery is usually similar to a real-life event, but that actual life event has not occurred (Morris et al. 2005). Other studies have discovered that imagery can

boost efficacy and motivation and reduce stress and fear levels built before competitive matches or events (see: Holmes and Matthews 2010; Omar-Fauzee 2009; Murphy et al. 2008). Imagery can help reduce stress by breaking complex skills or tasks into smaller, more manageable chunks (Gregg 2005). By breaking it down stage by stage, the performer can use imagery to practise the stage they struggle with most. For example, an athlete may be able to use imagery to imagine themselves kicking a football but struggle to imagine scoring a goal. Therefore, practitioners need to ensure they are focussing on the needs of the task and that the technique (in this case, imagery) leads to the required result (Mellalieu and Hanton 2008). Imagery can also lead to negative experiences (Johnsen and Lutgendorf 2001). For instance, negative imagery is a significant symptom of PTSD (American Psychiatric Association 1994), and intrusive Imagery in individuals who are ill and injured can exacerbate their distress (Redd et al. 1993). However, this will partly depend on the imagery skill level of the athlete. In 2013, Cummings and Williams developed the revised applied model of deliberate imagery use (RAMIDU). They posited that there is a causal relationship between imagery skill level and what is imaged, as well as imagery skill level and the amount that imagery will mediate one's distress. Imagery is significantly more effective in athletes with high levels of imagery skills than in athletes with low imagery skills. (Quinton et al. 2017; Williams et al. 2013). This is because those with higher imagery skill levels will be more likely to gain greater self-efficacy, reduce fear and are more likely to view stressors as challenges, not as threats (Abma et al. 2002). However, sports psychology intervention can improve imagery ability and develop imagery (Williams and Cumming, 2011). Therefore, practitioners should teach athletes to become "better visual and kinaesthetic imagers" (Gregg 2005, p. 98).

2.5.1.2. Self-talk

Self-talk is a strategy that athletes use in order to try and motivate and inspire themselves or increase their self-confidence during a competition (Hall 2009). *Self-talk* can be defined as a conversation that one has with themselves, which can be spoken internally or externally (Hardy et al. 2005). Academic studies have tended to concentrate on comparing and contrasting the effects of positive and negative self-talk. Many believe that negative self-talk is unproductive and unhelpful and will lead to greater levels of distress (Mellalieu and Hanton 2008). In contrast, positive self-talk will increase competitive performance and well-being by increasing self-efficacy and moderating stress (Gibson and Foster 2007). However, a study by Birrer and Morgan (2010) suggests a relationship between negative self-talk and improved performance. A study by Hamilton (2007) demonstrates that both positive self-talk and negative self-talk can produce desirable outcomes depending on how the individual athlete interprets it. Therefore, practitioners must take significant care when utilising self-talk strategies to ensure that the

content will be interpreted as a challenge instead of a threat. Part of the decision-making regarding how best to implement self-talk will be the athlete's skill level. Hamilton (2007) went on to show that those athletes who are beginners in a particular skill will react better to a positive self-talk strategy as it will enable them to remain motivated to develop the skill more quickly and efficiently. A later study undertaken by Plaatjie and Potgeiter (2011) confirmed that practitioners should only be considered once an athlete is through the first steps of skill acquisition and has gained confidence in the skill.

2.5.1.3 Distraction or Disengagement?

Distraction-oriented coping is the second strategy whereby an individual will distract themselves from a stressor by undertaking another task or activity that doesn't induce stress or anxiety (Waugh et al. 2020). Distraction-oriented coping is most commonly used to either produce secondary control (Skinner et al. 2003) or to regain psychological resources to cope with the stressor at a future time (Hamilton and Ingram 2001). Under previous models, distractions are generally seen as a maladaptive coping strategy. Because it is linked to avoiding stress which may work in the short term but in the long term has poorer health and performance results (see: Zimmer-Gembeck and Skinner 2016; Carver et al. 1989). However, Gaudreau and Blondin's (2004) model allows for positive distraction, which can enable stress to be reduced, particularly in chronic stressors (Lyubomirsky et al. 2011), which has a host of physical and emotional gains (Chida and Hamer, 2008; Fredrickson et al. 2003). This is because positive distraction utilises positive emotion to help cope with the stressor (Quoidbach et al. 2015). For example, leisure coping can be defined as partaking in hobbies to reduce the intensity of a stressor (Iwasaki et al. 2005). Iwasaki (2001a; 2001b) found that leisure-coping increases one's ability to cope, increases life satisfaction, and enables an individual to improve and develop new skills and interests.

Like positive distraction, neutral distraction can also be effective. Neutral distraction is a strategy whereby individuals distract themselves from a stressor with a neutral feeling or emotion (Yanos et al. 2010). Webb and colleagues (2012) suggest that positive and neutral distractions are equally as effective in reducing stress and anxiety; however other studies suggest that positive distractions are more effective. A study by Waugh and colleagues (2020) found that whilst both had a positive relation to coping with stress, the relationship between positive distraction and coping was significantly more potent than neutral distraction and coping. This demonstrates that distraction orientation can be a useful coping mechanism, but the object of attention they are being distracted by is crucial in assessing its effectiveness (Waugh et al. 2020).

Distraction-oriented and disengagement-oriented coping are very similar, so many research studies will use them interchangeably (see: Chu-Lien Chao 2011; Carver and Connor-Smith 2010; Fortes-Ferreira et al. 2006; Latack 1986). However, there is a significant difference between them: the individual's intention of utilising that coping strategy (Waugh et al. 2020). Disengagement-oriented coping is a reactive form whereby an individual disengages entirely from the stressor and any adverse side effects (Tsaur and Tang, 2012). For example, disengagement-oriented coping is used when someone is oblivious to, or unable to, utilise other coping strategies (Snyder 2001). Contrastingly, distraction-oriented coping is a choice the individual makes to positively affect their thoughts and feelings (Patry et al. 2007).

Lazarus (1999) suggested a distinct difference between coping and coping effectiveness. He stated that it is inaccurate to assume it will be effective just because an individual has utilised a coping strategy. Coping effectiveness has been defined as the "degree to which a coping strategy or combination of strategies is or isn't successful in alleviating the negative emotions caused by stress" (Nicholls and Polman, 2007 p. 15).

Research has demonstrated that coping with stress is vital to good performance and enjoyment of sport (Lazarus 2000). Furthermore, ineffective coping strategies have resulted in decreased performance (Lazarus 2000), withdrawal from a team sport or even inability to pursue a career as an elite athlete (Holt and Dunn 2004). Task-based strategies are usually the most effective at decreasing stress levels, whereas avoidance strategies are the least effective at coping well. This is because disengagement strategies often harm the athlete's performance and well-being (Nicholls et al. 2016). Van Yperen (2009) utilised a longitudinal methodology to assess performance success in elite football. Academy players documented their coping strategies and participants were considered successful if they had turned fully professional within fifteen years of the start of the study. Successful participants were much more likely to utilise problem-focused coping than unsuccessful participants.

Nevertheless, in a case study with professional golfers, Nicholls (2007) found that players can learn how to use or stop using specific strategies. However, changing coping habits can be a long process. It will likely involve much time and effort, but if it becomes an automatic response, the likelihood of it contributing to better performance is much higher (Nicholls and Polman 2007). It must be noted that coping is a multi-faceted, complicated process in which multiple strategies can be employed for different stressors. In a study based on coping strategies of figure skaters, Gould and colleagues (1993) discovered that almost 50% of figure skaters reported at least six strategies they had used. These included self-talk, social support, pre-competition routines, appropriate practice, withdrawal and denying the stressors. Nicholls's (2007) paper reported that out of the 78 coping strategies reported, 56 were considered

effective, and every athlete taking part reported more effective coping strategies than ineffective coping strategies. However, no links were drawn between sources of stress and effective coping strategies. If they were, this could significantly impact an athlete's ability to cope with all three sources of stress as they would have the ability to utilise the most effective strategy for that particular stressor (Weston et al. 2009).

Additionally, Holt and Hogg's (2002) study of the USA football team at the men's world cup found that the widest variety of coping strategies was used to manage their relationship with the coach. This adds further evidence to Wagstaff and colleagues (2017) study that most of a player's coping resources were going to stressors caused by the club environment (i.e. organisational stressors) rather than the competitive demands of playing world cup football. However, one must note the limitation of the lack of generalisability as it was based on one team, and each team will have a different team subculture. Further, it has been reported that a wide range of coping techniques are utilised to manage organisational stressors. (e.g, Kristiansen et al. 2013; Kristiansen and Roberts 2010).

2.6 Purpose of this research study

The purpose of this study has been formed after critically examining the current literature. Although there has been a significant increase in research investigating the experiences of stress and coping with elite sports in the last few years, much more needs to be done (Wagstaff et al. 2018). For instance, most research has focused on one specific element of the stress process in athletes i.e.coping mechanisms or a particular stressor source (Wagstaff et al. 2018). Therefore, researchers must progress beyond investigating individual elements and investigate the links between each processing element. (Fletcher and Arnold 2017; Larner et al. 2017). As stated previously, contemporary research has split stress sources (in athletes) into three categories (organisational, performance and personal). The limitation of having these three categories is that they are usually researched as individual phenomena rather than as a group which intertwines with each other. There is a need to investigate the relationship between the three categories of stressors and their effect on athletes (Sarkar and Fletcher 2014).

Additionally, most research on stress and coping have focused on one or the other despite being intrinsically linked as a continuous, ongoing process of appraising situations. This research aims to bring them together by exploring both the player's experiences of stress and their experiences of coping with discovering whether there are common themes in how players experience and cope with stress. In Nicholls and colleagues (2005) exploratory study, they stated that adolescent golfers should use strategies that studies had shown to help, such as blocking and rationalisation, and leave the strategies found to be unhelpful, such as rushing

their pre-performance routine. However, they later stated that practitioners should teach their athletes many coping methods (Nicholls and Polman 2008; Nicholls 2007). For example, athletes should not use just one strategy to be more effective at coping with stress. However, not every coping strategy will be helpful in every situation. Therefore, the researcher will ask the participants to discuss how effective their coping strategies are with the sources of stress they experience to investigate whether there are themes regarding the effectiveness of coping strategies. This will lead to more effective interventions as they can see when is the most effective time to use a particular strategy which will mean improving both their performance (Nicholls et al 2005) and their health and well-being. (Folkman and Moskowitz 2004)

Chapter Three: Methodology

3.1 Introduction

This chapter will set out the methodology utilised to conduct this research. A methodology is a framework based on a specific set of beliefs which is utilised in research studies to help the researcher choose the best course of action (Kara 2015). The methodology selected should depend on the researcher's aims, objectives and purpose as opposed to a devotion to a specific paradigm (Kivunja and Kuyini 2017). This chapter will present and justify the methodology, which includes the philosophy, the sample, the method of data collection, the instruments used and the method of data analysis before discussing ethical issues, trustability and giving an evaluation of the methodology.

3.2 Research Philosophy

"Ontology refers to a branch of philosophy concerned with articulating the nature and structure of the world" (Wand and Weber 1993, p.220). The two most commonly used ontologies are positivist (the viewpoint that there is one reality) and interpretivist (the viewpoint that multiple subjective realities coexist in a social world) (Ansari et al. 2016). The researcher is basing this study on the philosophy that an individual's interactions with others and their own life experience are relative, subjective and multidimensional and that multiple realities can exist with no single truth (Creswell et al. 2007). An interpretivist philosophical perspective was therefore taken as it enables researchers to understand the values, beliefs and significance individuals give to their actions (Smith 2009). It is consistent with an interpretivist ontological position in that there is more than reality and truth among human beings (Guba and Lincoln 1994).

Qualitative approaches help research the underlying properties of subjective processes, such as coping. Different types of qualitative research can be used to examine personal meanings and processes (Denzin and Lincoln 2005). Due to its prevalence within the workplace, stress and coping research are abundant in the workplace. However, this research has primarily been undertaken using quantitative methods, with questionnaires and measurement scales being the most commonly used methodological tools when generating research within this area (Bayraktar and Yilmaz 2016; Baloglu 2009). This methodology can report if someone feels stressed but cannot show what it is like for that person to live with stress and their coping mechanisms. Qualitative research, instead, can give more in depth insight into complex and sensitive areas such as stress and help create interpretations and applications based on a natural, real-life setting (Kumar 2005). Additionally, Kyriacou (2001) highlighted that quantitative

methods could not capture the idea of viewing coping as a process, which Lazarus (1999) identified as being of great importance when researching and understanding stress and coping.

There is a significant gap in the stress and coping literature in relation to sport. To date, many studies are quantitative in nature (For examples see: Wu et al. 2021; Bentzen et al. 2020; Tamminen et al. 2019; Roberts et al. 2019; Bartholomew et al. 2017; Larner et al. 2017) allowing researchers to create generalisations across populations but not enabling the depth of knowledge regarding the experience of athletes trying to cope under stress (Cheetham-Blake et al. 2019). Some researchers have posited that using predetermined categories and answers may limit the understanding of stress (Kuran 2020) because not all stressful situations will induce stress, and individuals will experience it differently (Scanlan and Passer 1978). Although quantitative studies help infer causes, it is unlikely that a laboratory experiment could match the stress of real-life stressors because there can be significant consequences to failure (Doron and Gaudreau 2014; Orlick, 2000). For example, whether they get selected again, get a sponsorship deal or competition outcomes (Nicholls et al. 2016). Therefore, if stress and coping are to be understood, it is crucial to know the stories of the individuals behind the stressors and coping strategies. Using a qualitative method thus allows greater freedom from constraints and thus can provide more in-depth knowledge of the experiences of stress and coping (Somerfield 1996). According to DeCarlo (2018) this is because the qualitative approach allows participants the time and space to describe and explain their experiences, which is a crucial part of a phenomenological study. As a result, as well as the nature of the research question, a qualitative approach was taken to discover patterns and relationships within athletes' stress and coping techniques. The qualitative research approach in the current study could prove beneficial for coping research because it offers an immense sense of the environmental and personal factors that affect stress (Holt et al. 2007; Somerfield 1997). Qualitative methods can also assist in investigating how stress and coping are experienced over a more extended period (Lazarus 2000; Crocker et al. 1998). Lazarus (1999, p.205) commented, "We must combine the narratives of many individuals with seeing in what ways the stories are shared and reflect the collective experience of people".

3.2.1 Research Design

Phenomenology has been defined as a research design that describes a particular phenomenon by researching it from the perspective of people who have lived it (Neubauer et al. 2019). Alternatively, it is studying one's individual lived experience of the environment (Van Manen 1997). The primary goal of phenomenology is to explain what a specific phenomenon means to an individual's life in terms of what was experienced and how it was experienced by those who have experienced it (Teherani et al. 2015). Stress and coping are both known phenomena: stress

is a phenomenon that "involves an individual ascribing meaning to his or her interactions with the environment" (Arnold and Fletcher 2012, p.397). Whereas coping is a phenomenon that spreads through every facet of human behaviour and emotion (Duhachek 2005).

Additionally, this study aims to investigate the experiences of stress and coping among elite athletes; therefore, the researcher decided that a phenomenological approach was the most suitable as its framework is dedicated to analysing phenomena. In addition, phenomenological research closely matches the aims and objectives. For example, one of the objectives was to report athletes' experience of stress and the effectiveness of any coping strategies currently used. Due to the focus on lived experiences, phenomenology is the most suitable approach as it will enable the researcher to show what stressors the athletes face and what coping mechanisms they utilise and to report how effective the coping mechanisms were in reducing stress. Additionally, phenomenology can ascribe new meanings to develop or change how one views that experience (Lavertey 2003). This again links back to the study's objectives, specifically 'To critically understand the nature of interactional properties and their impact upon coping.' By reporting what sources of stress and coping mechanisms athletes face, the researcher can then use a phenomenological methodology to analyse the meanings of these experiences and improve their understanding of them which will glean new insights from them (Neubauer et al. 2019).

As a result, the methodological procedures are usually shorter and more straightforward as phenomenologists are not as prescriptive (Holloway 2005). This is supported by Hycner (1999, p.143), who stated that "there is an appropriate reluctance on the part of phenomenologists to focus too much on specific steps". He says that one cannot impose methods on a phenomenon "since that would do a great injustice to the integrity of that phenomenon" (p.144). However, to ensure the research is valid and of sufficient quality then, some guidelines are needed (Groenewald 2004). Many criteria for assessing whether a qualitative study is credible and of good quality have been suggested (see: Yardley 2000; Elliott et al. 1999; Henwood and Pidgechon 1992). However, the researcher selected Elliott and colleagues (1999) criteria as the most appropriate as it focused on the phenomenological approach (Willig 2013).

To fulfil Elliott and colleagues (1999) criteria, the researcher put in place several things: Descriptions of the participants and the sport they play were included (See Table Two for demographic information). The method was described (see section 3.3), so it can be repeated. Section 3.3 explains the tools and procedures of the study and justifies them. Thirdly, each theme has been backed up by multiple direct quotes from the participants. Lastly, the data was written coherently; as the data collected will be demonstrated in quotes, combining the results with the discussion will make it easier for the reader. This is because it gives the structure

greater cohesion as the quote is in the same proximity to the interpretation and prevents endless scrolling back and forth for the reader (O'Sullivan and Jefferson 2020). The researcher has indented the quote and put it in italics which will be between the introduction to the section and the analysis, to make it easier to comprehend (O'Sullivan and Jefferson 2020)

3.3 Participants

The participants for this study included seven athletes, all of whom were situated in Great Britain (at the time of the data collection). Their demographic information has been presented in the table below:

(Please note: Pseudonyms have been used to preserve anonymity)

Table Two: Demographic Information

Name	Sport	Gender
Alan	Football	Male
Benjamin	Football	Male
Caleb	Cycling	Male
Danielle	Dance	Female
Esther	Hockey	Female
Freddie	Fell Running	Male
Gregory	Rugby Union	Male

3.3.1 Sampling

This study was designed to implement purposive sampling. Purposive sampling is a form of sampling whereby the researcher deliberately chooses participants based on their capability to

explain a particular phenomenon/s; in this case, stress and coping (Robinson 2014). Therefore, participants were selected as they were currently competing in elite sport as they could provide a unique yet informed position related to the research study (Schutt 2006).

There was an element of convenience sampling embedded within the participants' recruitment strategy as techniques included drawing on personal and professional contacts as well as social media posts. A convenience sample is a sampling method whereby participants are recruited from locations which are 'convenient' to the researcher (Saunders et al. 2012). This was implemented to ensure participant recruitment stayed within the time and cost boundaries of the researcher (Palinkas et al. 2013; Teddlie and Yu 2007). The potential downside to using convenience sampling is it may be more likely to lack academic rigour (Gentles et al 2015). Therefore, to ensure that validity and academic rigour are maintained, before progressing with the study, a discussion was had with the potential participants to ensure they fit the criteria of an elite athlete.

Swannn and colleagues (2015) synthesised the findings of 91 studies to create a model for classifying elite athlete samples. The study utilised Swannn and colleagues (2015) definitions of the elite to form a framework for this study. There are five variables: athlete's highest standard of performance, level of success at their highest level, years of experience at their highest level, competitiveness of sport in the athlete's country and global competitiveness of the sport, as can be seen in the figure below in greater detail:

Figure One: Summary of Findings and Model for Classifying the Validity of Expert Samples in Sport

Variable/Score	1	2	3	4
A. Athlete's highest standard of performance	Regional level; university level; semi-professional; 4th tier leagues or tours	Involved in talent development; 3rd tier professional leagues or tours	National level; selected to represent nation; 2nd tier professional leagues or tours	International level;top tier professional leagues or tours
B. Success at athlete's highest level	success at regional, university, semi-professional, or 3rd/4th tier	National titles or success at 2nd/3rd tier	Infrequent success at international level or top tier	Sustained success in major international, globally recognised

				competition
C. Experience at athlete's highest level	<2 years	2-5 years	5-8 years	8+ years
D.Competitiveness of sport in athlete's country	Sport ranks outside top 10 in county; small sporting nation	Sport ranks 5-10 in country; small-medium sporting nation	Sport ranks top 5 in country; medium-large sporting nation	National sport; large sporting nation
E. Global competitiveness of sport	Not Olympic sport; World championships limited to few countries; limited national TV audience	Occasional Olympic sport; World championships limited to a few counties; limited international TV audience	Recent Olympic sport with regular international competition; semi-global TV audience	Regular Olympic sport with frequent major international competition; global TV audience

The following equation was created in order to classify the samples:

Eliteness of athletic sample = [(A + B + C/2)/3] x [(D + E)/2]

Depending on the score, they will be classified into one of the four groups:

Classification :
1-4 semi elite;
4-8 competitive elite;
8-12 successful elite;
12-16 world-class elite

The table below displays the participant's scores:

Table Three: Participant's score in Swannn's et al (2015) model of classifying expert samples

Name	Scored
Alan	6.6
Benjamin	8
Caleb	5.3
Danielle	5
Esther	7.6
Freddie	5.8
Gregory	7.1

All of the participants recruited for this study were classed as "competitive elite" (Swannn et al. 2015, p11), which is a score between 4 and 8 on the model.

This model was selected for its transferability. The researcher aimed for a diverse sample; to increase the diversity of participants whilst ensuring they are still elite, the researcher selected participants from a variety of levels of experience, Additionally, the researcher recruited from different sports, which naturally had a wide range of resources, reputations, TV opportunities and history. Therefore, a model was required that could find equivalents across multiple sports as there may be differences. Swannn and colleagues' (2015) model allowed the researcher to compare levels of eliteness across multiple sports to ensure the participants recruited were all of a similar elite level.

3.4 Method

An interview can be defined as a dialogue for obtaining information (Easwaramoorthy and Zarinpoush 2006). Interviews can give great insight into complex and sensitive areas such as stress and help create interpretations and applications based on a natural, real-life setting (Kumar 2005). Therefore they are the best way to explore the experiences of individual people, and they are most effective in providing depth and insight into specific phenomena (Gill et al. 2008). They are also highly flexible and could be utilised with individuals or with a group. The researcher selected to do them with individuals as it ensures that the researcher can go in-depth with each participant and highlight each individual perspective (Adhabi and Anozie 2017).

There are three types of interviews; structured, unstructured and semi-structured(Edwards and Holland 2013). A structured interview is an interview style whereby the researcher asks pre-determined questions in a specific order with specific fixed responses (Stommel and Wills 2004). Structured interviews are generally more appropriate for gathering quantitative data (DiCicco-Bloom and Crabtree 2006) and therefore were not selected as an instrument by the researcher. In an unstructured interview, a researcher has no set questions but has a few broad points to discuss (Easwaramoorthy and Zarinpoush 2006), but the course of the dialogue is primarily spontaneous based on the answers of the participants (Bryman 2004). The disadvantage to this approach is that there is next to no guarantee that the pertinent topics will be covered (Young et al. 2018). Additionally, unstructured interviews are most appropriate when undertaking longitudinal fieldwork (Jamshed 2014; Corbin and Morse 2003) and thus it was not selected as an instrument for this study. Therefore the researcher selected a semi-structured interview style. In a semi-structured interview, the researcher pre-determines the focus of the interview but is led by the participant's responses (Stuckey 2013). This occurs by utilising pre-determined questions but then asks follow-up or probing questions depending on the participant's responses (Easwaramoorthy and Zarinpoush 2006). The benefit of this is that it offers greater flexibility for individuals to answer the questions on their terms and allows for new themes to emerge (Jones 2022), but still provides a structure to ensure the topic is kept to (Conroy 2010) meaning it can reach where quantitative can't (Gill et al. 2008). This design has also enabled rich, in-depth data to be collected, allowing the researcher to analyse how processes, such as stress and coping, work within an individual (Hudson and Fraley 2014).

3.4.1 Interview Procedure

The data was collected via semi-structured interviews where three sections of open-ended questions were all undertaken online over video call. Before they participated, the researcher had a discussion with the participant to ensure they fit the criteria and were suitability relevant to the research aims and objectives (DiCicco-Bloom and Crabtree 2006). After that had been established, the researcher e-mailed an information sheet and consent form along with an invitation to ask questions (Manti and Licari 2018). The participant then e-mailed a picture of the signed consent form back to the researcher.

All interviews were conducted over skype, zoom or teams, depending on the participant's preference. The interviews were between 45 and 75 minutes long. The researcher undertook the interviews in a private building behind a shut door to ensure privacy. The researcher began the interviews by making small talk with the participant to build rapport (Whiting 2008). Once this was established, the researcher explained the study, explained confidentiality and ensured they were comfortable and ready. Once they were, the researcher started the recording and asked the

first question.

The structure of the interview was adapted from Kerdijk and colleagues (2016). Kerdijk and colleagues' (2016) work was based solely on competitive stressors within a team environment. Contrastingly, this research study examined all three sources of stressors in individual and team sports, so the questions were rephrased to enable this. The athletes were asked to describe a specific stressor that they had faced. Once they had, they were asked how they attempted to cope with the stressor they had described. Finally, they were asked how effective that coping mechanism was for them in reducing or eliminating the stressor. The researcher would continue to ask these three questions once a stressor and the coping mechanism had been described.

These three questions were supplemented by follow up questions which weren't pre planned as it relied upon the interviewee's answers (Kallio et al. 2016). The follow-up questions were open, void of jargon or leading language (Britten 2007). In addition to follow-up questions, several probing techniques were also utilised in order to bring out more data from the participants. These included: wait time (ensuring participants are given sufficient time to think and respond), elaboration questions (asking the participant to give further detail on a particular answer), clarification questions (asking a participant what they mean to ensure the researcher understands their answer correctly) and verbal encouragement (using affirming language to encourage the participant to continue speaking (probing techniques were based on DeJonckheere and Vaughn 2019). These probing techniques were pre-planned by the researcher; however, they were utilised in an unplanned way. i.e. They were used as and when they were required as opposed to specific pre-planned points. At the end of each section, interviewees were asked if all appropriate sources or strategies had been discussed to ensure that the player had discussed everything they wanted and that there was sufficient depth.

All interviews were recorded in two places; the recorder provided on the video calling service and on an electronic audio recorder. It was recorded twice, as a backup in case one failed. They were downloaded to a password-protected computer.

A pilot interview was undertaken with an amateur athlete before the research started. This was to enable the researcher to resolve any potential issues with the questions or the structure of the interview. The data collected in these interviews were not included in the analysis. Piloting an interview is invaluable for both practising interviewing skills and to ensure the interview questions are of sufficient quality (Malmqvist et al. 2019). Piloting the interview helped the interviewer rephrase the questions to ensure they were sufficiently open and so could be led by the participant but also remained focussed. (Adams 2015).

3.4.2. Data Saturation

The researcher stopped data collection when it reached its saturation point; the point that more data was not needed as it would confirm the current themes and conclusions (Faulker and Trotter 2017). The researcher decided upon its saturation point as no new data, codes or themes were being reported (Fusch and Ness 2015). It is widely agreed that data saturation is crucial as not reaching it negatively affects the quality of the research (Kerr et al. 2010; Bowen 2008) and is the highest assurance of rigour a researcher can provide (Hennick and Kaiser 2022). In order to reach saturation, the researcher must know their target class and inclusion/exclusion criteria; This was a study specifically looking at elite athletes; the researcher selected participants based on this factor (see 3.4.2 for more detail) however this need to be balanced with maximising the range of views recorded within the target class in order to reach saturation (Buckley 2022). The researcher achieved this by including athletes from a range of sports, genders and ages. Another potential pitfall the researcher must be aware of pre data collection, are potential biases. Both indirect and inadvertent bias can run the risk of ruining progress of saturation (Buckley 2022) this includes both researcher bias and participant bias. The researcher noted their own biases (e/.g, see 4.3) as well as the participant's (e.g. see 5.1).

There are different types of saturation and it is important for a researcher to select the type of saturation they need to achieve, in order to achieve it (Buckley 2022). Theoretical saturation occurs when the themes and categories are sufficiently described so that a theory can be developed (Morse 2015). Theoretical saturation is most closely associated with the grounded theory methodology after being developed by Glasser and Strauss (1967). Therefore rather than theoretical saturation, the researcher implemented data saturation, the moment where no new themes or codes 'emerge' from data. (Braun and Clarke 2019, p.201).

However, Legard and colleagues (2003) posited that saturation occurs not just at the level of the dataset as a whole but concerning the data provided by an individual participant, i.e. it is accomplished at a specific point in an interview with one of the participants. Probing must continue until the researcher feels they have explored the thoughts and feelings of the participants' experience fully. The researcher utilised several probing techniques (see section 3.4) and continued to do so until the participant did not contribute any more detail. The researcher also asked each participant at the end of every interview whether there was anything else they would like to add. This helped ensure the participant had explored it entirely from their perspective, providing a secondary check for saturation and greater rigour. This was combined with Guest and colleagues' (2006) proposal that consistency of questions is vital in reaching saturation; therefore the researcher utilised the same three questions (see 3.4.1) for each participant.

3.*4.3 Data Analysis*

The interviews were transcribed verbatim before coding keywords and phrases to undertake an inductive thematic analysis. The researcher analysed the written transcripts using inductive thematic analysis (Braun et al. 2016). “Inductive analysis means that the patterns, themes, and categories of analysis come from the data; they emerge out of the data rather than being imposed on them prior to data collection and analysis” (Patton 1980, p.306). Inductive theme analysis is ultimately utilised by what the researcher’s desired focus is and how they interpret and analyse the data within the boundaries of the ontology and methodology as well reflections of their own biases and preconceptions (Bruce 2007). Thematic analysis was selected due to its suitability to identify and analyse meaning patterns in qualitative data while maintaining a high theoretical flexibility level (Kegelaers et al. 2020).

The researcher undertook thematic analysis following the step-by-step guide Braun and Clarke (2006) proposed. This analysis started with carefully reading all of the transcripts multiple times. After the familiarisation process, data segments were coded with a succinct yet suitably descriptive label representing their topic. These labels include disengagement, distraction and task focussed coping, evaluation of coping strategy, fear of injury, coaching staff, relationship with teammates and studying/unrelated work. Labels should provide insight, and therefore one-word descriptions were avoided (Jones 2022). Jones (2022) also stated that labels should be distinct and not overlap with others and that labels may be added or edited as the data analysis progresses. These labels were then clustered into provisional themes (i.e. broader meaning patterns), which in this study’s case, were personal, performance, and organisational level stressors as well as coping and transitions (Nowell et al 2017). Throughout the analysis, themes were carefully reviewed, tweaked, and grouped into higher-order themes by checking back to the entire data set. Finally, the themes were inductively defined so that the label succinctly represents each theme’s focus and scope. Throughout the data analysis process, the researcher remained open-minded to any data that didn't fit into these pre-determined categories, assigning any ‘non-conforming’ data to a ‘new’ higher-order theme.

3.5 Evaluation of Research Quality

3.5.1 Trustworthiness

Qualitative research creates knowledge based on the lived experience of human beings (Sandelowski 2004), but in order to achieve it must be undertaken in a rigorous and trustworthy manner (Nowell et al. 2017).

3.5.1.1 Lincoln and Guba's (1985) criteria for trustworthiness

To ensure that a study is worthy of attention, there are criteria that the study needs to fulfil. In quantitative research, internal and external validity, reliability, and objectivity are the primary factors in ensuring this. However, these are not appropriate for qualitative research and so must focus on justifying it is trustworthy by demonstrating its credibility, dependability, transferability and confirmability (Shenton 2004). The researcher selected Lincoln and Guba (1985) criteria. Whilst there are more recent criteria of research quality (Tracy, 2010), the researcher selected the original; Lincoln and Guba's (1985) criteria as it widely used and accepted as well as instantly recognisable (Nowell et al. 2017). Additionally, it provides solid pragmatic ideas for researchers to ensure quality (Nowell et al.2017)

Credibility is the level of confidence that can be placed that the researcher's interpretation and analysis is correct (Korstjens and Moser 2018). The researcher undertook several tasks in order to ensure credibility. Firstly, as recommended by Guba and Lincoln (1989), they undertook peer-review. The researcher had two academic supervisors, both active researchers in the field, who scrutinised the results and discussion and offered feedback. The researcher took action by reorganising the presentation of the data and by adding more depth to the thesis. In addition to this, early on in the research, the researcher undertook a 'mock' presentation with two academics (neither was the researcher's supervisor) where the literature review and methodology were scrutinised, and action was taken whereby further justifications of the methodology were added, and the review of the literature became more systematic. Secondly, the researcher engaged in persistent observation, a technique whereby the researcher constantly revisits the data, concepts, codes, labels and themes until the theory has sufficient insight (Barusch et al. 2011). Additionally, the researcher had an open mind to consider the various answers that may come as a result of the research rather than focussing on factors that best suit their own views or expectations (Polit and Beck 2012; Byrne 2001). The researcher met this criterion by ensuring an open mind when categorising the data predetermined by the existing literature. The researcher was flexible to the idea of new labels and themes rising from the dating as opposed to trying to place data into a label or theme that didn't wholly and accurately represent the experience. This, therefore, added to the authenticity of the study by enabling the researcher to create their interpretation of the data, which Cope (2014) stresses to be of great importance.

Transferability regards how well they can be generalised to other studies (Tobin and Begley 2004). It is impossible for the researcher to know who may want to transfer the findings, and thus, the researcher has aimed to fulfil transferability by providing in-depth descriptions so that the study can be replicated in other contexts and settings (Nowell et al. 2017).

Dependability relates to reliability as it is how much the methodology is recorded enabling a new researcher to follow or critically analyse the method (Streubert and Carpenter 2007). The researcher undertook a pilot study which can help increase the dependability (and credibility) of a study (Pratt and Yezierski 2018). In addition to this, the researcher provided details of the research philosophy, method and instruments (Moon et al. 2016)

Confirmability ensures that the researcher's findings are rooted in the data collected and have clearly been procured from it (Korstjens and Moser 2018). Confirmability has only been proven when credibility, transferability, and dependability have all been accomplished (Guba and Lincoln (1989). The researcher has aimed to achieve this by setting out justifications for the decisions made throughout the methodology, as suggested by Koch (2005).

3.5.1.2. Reflexivity

Subjectivity is an inherent part of qualitative research (Rees et al. 2020). This means that the researcher's beliefs, values and biases will be interwoven with the study (Olmos-Vega et al. 2022). Olmos-Vega and colleagues (2022) undertook an inductive analysis of publications on reflexivity to synthesise the data and then create a definition where they state: "Reflexivity is a set of continuous, collaborative, and multifaceted practices through which researchers' self-consciously critique, appraise, and evaluate how their subjectivity and context influence the research processes" (p.2). The researcher engaged in reflexivity by following Walsh's (2003) four dimensions of reflexivity; personal, interpersonal, methodological and contextual to reduce the impact of researcher bias as much as possible.

Personal reflexivity refers to the reflection of the researcher's beliefs and suppositions. Most of the researcher's research experience had come within quantitative methodologies and therefore attended optional workshops and lectures regarding qualitative research methods to ensure that their views of qualitative research were correct. Interpersonal reflexivity regards how the human connections surrounding the study will affect the data and interpretation (Walsh 2003). The researcher spent time reflecting on his relationship (or lack thereof) with each participant and how it may affect the study (For example see section 4.3). Methodological reflexivity refers to the practice of critically reviewing the methodology (Olmos-Vega et al. 2022). From the beginning, researchers should be reflexive about whether their methodology is best suited to the research being undertaken (Varpio et al. 2020). Therefore, the researcher has discussed their methodology and justified the decisions made at each stage. Lastly, contextual reflexivity relates to the socio-cultural context that the research is set within (Walsh 2003). This research study took place during the 'Covid-19' pandemic, and so the researcher reflected on that (see Section 1.4).

3.6 Ethical Considerations

This has been approved by the University ethics committee. As part of obtaining approval, the researcher undertook a risk assessment to ensure minimal risk to both the researcher and the participants and that both are safeguarded from harm during the research (Ostrom and Wilhelmsen 2019).

While confidentiality is a key value of ethical research and forms a standard of practice (Kaiser 2009), confidentiality may have to be broken if a crime has been committed. This is because the researcher may be legally bound to reveal if a crime has been committed and, if necessary, give research data to the police (Surmiak 2020). The researcher assured each participant that only the researcher and their supervisors would see the recordings and that they would not communicate records to anyone except with explicit permission or legally obligated (Lipworth et al. 2017).

Data collection may make a participant feel distressed due to potentially sensitive topics. If the interviewee struggles to handle the stress of emotion, the researcher will step in as appropriate by, for example, taking a break from the interview. If it is more serious, the researcher would stop the interview and try to guide them to appropriate help (Varpio and McCarthy 2018).

Chapter Four: Results and Discussion

4.1 Introduction

This chapter incorporates the findings and the discussion in one chapter (as opposed to separating them into separate chapters) which is commonplace in qualitative research (Anderson 2010). It is divided into six main headings to represent the structure of the findings; competitive, organisational and personal stressors. in this order. A new model will then be introduced, supported by the data, in order to more effectively showcase the sources of stress, before moving onto coping (which combines both the participant's coping strategies utilised and the athlete's evaluations of them for coherence) before ending with a summary of the results and discussion. The 'Transition from youth to experienced player' interlinks with each of the themes and therefore has been interwoven into the other headings depending on which one is most appropriate. The below table shows the number of quotes that came under each theme:

Table Four: Total number of quotes for each theme

Theme	Total of quotes
Competitive stressors	31
Personal stressors	12
Organisational stressors	28
Coping strategies	25
Evaluation of coping strategy	18
Transition from young to experienced player	9

Whilst qualitative research is not concerned with numerical data (instead it is concerned with non-numerical data to generate deeper insights into concepts), noting this fact does help point towards how elite athletes experience stress. An athlete's desire to discuss competitive stressors

more than the others demonstrates their lived experience, which can then be used to provide deeper insights into why and how this is. For example, in quantitative research, organisational stressors are consistently the most reported of the three categories (Wagstaff et al. 2012; Hanton et al. 2005). Contrastingly, this (qualitative study) found that the participants reported more competitive stressors. However, it is consistent with previous research by reporting significantly fewer personal stressors than either competitive or organisational. In this case, organisational and competitive stressors were reported more than twice as often as personal stressors. Interestingly, whilst competitive stressors were reported more often, coping strategies related to organisational stressors were reported more frequently than those related to competitive stressors. This suggests that whilst athletes face competitive stressors more frequently, organisational stressors cause more intense stress and therefore are more likely to cause distress and decrease performance and well-being.

The theme with the least number of quotes was 'Transition from young to experienced player', partly because this theme was developed later after data collection had begun. Whilst analysing some of the earlier interviews, the researcher noticed one of the athletes discussing how their experiences of stress and coping had changed as they got older and thought it was an avenue that needed further exploration. Thus, the researcher became more proactive in investigating this theme in later interviews by probing participants and asking them how their stressors and coping changed as they became older/experienced/grew in status within their organisation.

4.2 Experiencing Competitive Stressors

A common theme throughout the data collection, specifically within competitive stressors, was how the athlete's stressors changed as they got older, became more experienced or when their status changed or increased within the team. Five participants mentioned it; for example, Benjamin, a footballer, said:

> *"When I came through, I think you felt like you were so young, and so you had to make an impact straight away. And you see now, all these young players doing so well in the Premier League players coming through 17, 18, 19 and everyone's got a different pathway. So, the pressure of being a 17-year-old is you want to do well because you know that unless you have a great game, you probably won't play next week. But as you get older, then when you don't play, you feel there's less pressure to do well because you're probably going to play the next game, whereas when you were 17 or 18, It might not be that easy."*

Alan, also an experienced footballer, reported a similar experience to Ben when he said:

"There is a stigma in football; if you are young lads, you aren't a first-team player, and it takes a long time to break that stigma. I can't put my finger on how it happens; it just does. You just become a bigger personality in the team, I guess. So, in terms of mindset, it is hard and it's stressful. I remember when I was a young lad, and you went to an away game on the couch, and I had to make the tea the whole way. Hang on a minute. I'm a player here. Yeah, I'm doing all these different things just because of my age, and it is strange, but it's just how it is in football. And, like, I'm now an older player. And I see the younger players still doing it. So, will it ever change? I don't know. Is it right? Probably not. But I think it has got some good aspects in terms of it creates a respect for your elders straightaway. It's a tough environment when you're a young pro trying to break into the first team. I think it's, honestly, more than anything. It is psychological; there are a lot of young players that are very good, and if not better, than the players in the first team. But are they ready psychologically? Probably not."

Alan also discusses his knowledge of this happening in other football leagues, thus adding support that this occurs across football:

"I've got a friend who plays in league one. It was; still, I would say honestly, two or three years before he became an established first-team player, maybe even longer. And I know for a fact that's something that he struggled with for sure. You're 24 years old, yet you're still being looked at as a young lad. But in football, that's old; if you watch England, you've got teenagers playing, so not 24 is not a young lad anymore. So yes, it is weird how it works and how psychologically it can affect you."

Interestingly, issues around being a younger player were discussed by other participants across different sports, but for different reasons. Gregory, a rugby player, discussed his experience as a young player at a premiership rugby club, but from a slightly different perspective:

"It's much tougher as a younger player, and you're not in the first team because they don't care about you, particularly if they know you're on your way out. There's no support or care. They genuinely just don't care about you if you're not playing the next game. I was released by 'rugby club A', and once you're not wanted, you're on the scrap heap. There was no help in getting another club or education or anything like that. It was, 'we don't want you anymore, bye, and that's it."

Such experiences of being a 'young player' aligns with previous studies by Tamminen, K. A. and Holt, N. L., 2012. Adolescent athletes learning about coping and the roles of parents and coaches. Psychology of Sport and Exercise, 13 (1), 69-79.

Tamminen (2007) and Gilbert (2000), who found that the athlete's status and position within their team may affect which competitive stressors they face and to what degree. The stress caused by these stressors are often rooted in their need for safety, belonging, and esteem, all of which have been acknowledged as basic human needs by Abraham Maslow in his 'Hierarchy of Needs' (1943). Safety is the second section of the hierarchy and focuses on assured work and wealth. Belonging needs represent the third tier in the hierarchy, including connection and relationships with others. Lastly, esteem needs represent the fourth tier and includes respect, status and recognition. This concurs with a study from Giacobbi et al (2004), which found that athletes were more likely to appraise stress as benign positive or a challenge rather than harmful or threatening when in an environment they felt safe and secure. The pressure caused by the stress of knowing you have to perform every weekend, you cannot let up for a moment, can be incredibly distressing, even debilitating (Mor et al. 1995). At the start of their careers, these three athletes didn't have these and struggled under distress. In Benjamin's case, it was the fact that he didn't have the security that he needed. He knew he would have to be exceptional to play the following week. Benjamin went on to say:

> *"But Now I'm playing regularly; there's no pressure to do well every week. I don't think so, because you're probably going to play the next game…. Then they give you the confidence that you are a good player and they do trust me and all these types of things do help…. And the coaches have got a lot better over the years at this side of it. They come up to you, look at you and say, "you've not scored for a couple of games, but I trust you. Keep pushing, and the goals will keep coming. That's something that has improved over the years. And something that's been beneficial for me."*

Again, the same isn't just true for football, however. Gregory, a rugby player, had a similar experience:

> *"You cannot have an off day. At normal workplaces, you can have an off day, and it probably won't matter too much, well, unless you are a surgeon! That's obviously a whole other ball game. But in sport, if you have one off day, you might not play for several weeks, and it sets you back. You have to be on it 100% every day."*

Arnold and colleagues (2015) posited that athletes competing at a higher-level face more stressors because of how they are perceived. This is because athletes competing at higher levels generally are more devoted to their sport (Mallett and Hanrahan 2004). Therefore, if a situation occurs, such as a fear of not being selected, higher-level performers may experience a higher

level of distress. (Siegrist 2002). The data collected in this research suggests the opposite. These three athletes experienced significantly higher levels of distress as young, inexperienced performers (in this particular situation) than as older higher-level performers.

The knowledge that the manager trusted Benjamin enabled him to cope with the stress of elite-level performance. This supports research from Chase and colleagues (2005), who suggested that praise from individuals such as leaders, family and friends leads to greater levels of self-efficacy. However, in contrast to the footballers' experience, Gregory didn't mention a transitional change as he got older. At the time of the interview, Gregory was thirty years old, had played over 170 professional games and had been a professional player for a decade. Despite this, he still experienced the stress of feeling like he needed to perform. In Benjamin's case, this was true as a youth player (he was constantly worried about making a mistake out of fear of losing his place or even a contract). However, as his status increased within the team and he was given more trust, his experience of competitive stress was reduced. This has increased his ability to cope with the stress of performance pressure (as he has conversations he can look back on and prove he is safe and secure). Additionally, it has reduced the severity of the stressors so they wouldn't appraise it as stressful as previously and will use fewer resources to try and cope with the stress. It must be noted that it is unlikely that it will eliminate the stressor; football is a ruthless, cutthroat business where there are high expectations from managers, coaches, families, fans and social media (Blakelock 2019). However, for athletes to perform at their best, managers and coaches should work to eradicate or at least decrease the total and severity of the competitive stressors that elite athletes face (Fletcher and Arnold, 2021). As stated above, even with the best will of practitioners, it isn't guaranteed that the stress will be abolished or even minimised (Fletcher and Arnold 2021). Therefore, coaches should help athletes to appraise competitive stressors more effectively (Mcloughlin et al. 2022; Fletcher and Arnold 2021).

4.3 Organisational stressors

The organisation's operation was a significant stressor for many athletes. Five of the participants shared experiences of the organisation not being run well and the impact it had on them. Three of them also mentioned positive experiences of organisations. Danielle (a dancer) and Alan compared their good and bad experiences with their sporting organisations.

Danielle gives her experience below:

> *"I've been in small companies that have been more stressful than big companies because, for example, lack of organisation. Lack of organisation is often a big stress.*

And that tends to be more of an issue in small companies than in big companies because the big companies have protocols in place, and they have a certain way of doing things. They often have more staffing and things like that. Whereas in small companies, it tended to be seen as more of a jack of all trades; you have to pitch in wherever you needed whenever you needed. Things just tend to not have the same level of organisation behind the scenes, maybe one person in charge of organising compared to a team of five or six in a big company. So, I would say it depends on the company's specific situation because they both have big companies that I've worked for that have been stressful because they just see you as a number. And you just become a bit down about it all, but at least things around the way that they were supposed to run. Or as compared to little companies that I've worked for, that is so stressful because, like, everything seems to just come together at the last minute because, oh, this hasn't been done yet. That has not been done yet. I'm sat in the back room. Sewing someone's costume because somebody has not finished the costume yet. Or I've had to do the costume, and I've had to stay up all night to finish that costume. Or they don't have an understudy because there's not enough money to hire more dancers than are needed for the actual production…. On the plus side, smaller companies tend to be quite nice because you get to know people and you create these connections, and you tend to build closer connections within a company, but it's harder to do that when it's 200 People. So, in that sense, small companies are nice, but now I'd say lack of organisation tends to be the biggest stress."

Danielle found that in the bigger organisations she had been involved in, the ones with more resources tended to be less stressful because there was the staffing to cope with the non-performance-related tasks such as payroll and costumes. In contrast, in smaller organisations, where there were no resources, she would often have to take on tasks that were not within her realm of responsibility or perhaps her skill set. This can be stressful for several reasons: Firstly, because of the athlete's level of self-efficacy. In smaller companies with staffing resources to cope with all the demands and needs of the organisation, Danielle may have to undertake a task that she is not confident in doing. This is a stressful experience, as research has shown direct correlations between self-efficacy and stress. A study by Makara-Studzińska and colleagues (2019) found that self-efficacy can moderate the relationship between a stressor and mental fatigue as well as work-based ability and disappointment. Secondly, it goes against her preferred way of doing things. Danielle, to prevent herself from getting stressed, likes to break things down into manageable chunks where, instead of focussing on one big performance, she looks at all the small steps she needs to take to get there:

"I take the big thing which is scaring me and think, how can I split it down into manageable chunks? So, for example, if we're talking about a big performance coming up that actually has a lot of pressure on it, right, how can I split that up into manageable chunks? Right, okay. So then, in order to achieve that, I need to make sure that I am attending rehearsals and that I am, you know, working harder rehearsals making sure that I do it, you know, making sure that I prepare every single night before so that I'm not having the added stresses of like, oh, have you seen this? Where did I put that? Where's this? Did I bring that with me, you know, getting all that sorted out the night before? So again, something for me that I've always done since I've been an adult, but it's something that I learned as I went along. It wasn't something that had just immediate effect was to tear everything the night before or the day before? Because if I'm preparing things on the day, my stress is at the highest level it's going to be. I'm going to forget things, potentially forget important things. So, it's important to prep in advance. So, I guess the takeaway from that is prep is something that I have learned is one of my management points for stress, "

For Danielle to effectively manage her stress, she ensures she is prepared in advance by controlling what she can control. However, one thing she is unable to control is the behaviour of others. So even if she prepares and does everything to ensure that she is as ready as she can be for the production, others may not. This is then stressful for Danielle who has to do the work because she is taking the time to do tasks that are not primarily and directly focused on her performance when she should be focused on her performance.

Alan spoke about a club he played for over two time periods. He left the club, expecting not to return because of the lack of organisation. When he returned after being convinced the organisation had improved, he found it challenging, and it was a more enjoyable and less stressful experience:

"When I left a few seasons ago. The club wasn't being run well. In my opinion, I didn't. I didn't like the manager. I didn't think it was going in the right direction. So, I just didn't enjoy being around the club. So, you know, I left, and I said, you know, I'm probably not going to go back there again because it's not for me. But then, once I finished my time at Club B I spoke with the players. I spoke with the new manager. And they sort of told me how different it is now and how they've improved different things mainly, to be honest with you, improve things off the pitch. Because when you improve things off the pitch, that actually does make a big, big difference to play, and you know, it's only small things, but, you know, when you turn up to training, there's a physio there, so you can go and see the physio before if you need a little massage or*

when you come to match days, you've got your energy gels, you've got your Lucozade you've got your jelly babies, it's little things like that. It's certainly maybe like small percentages, but they add up to quite a lot when you plan. And when I left her before that, none of that stuff was really happening. You know, you turn up to games, and there's no physio that or, you know, you turn up, and you've got no water bottles, right it's just like basic things like that wasn't happening, whereas now it's a lot better. So yeah, it's much better."

There are blatant differences between the structure and operation of a professional football club and a professional dance company. For example a professional football club, there is much less variation of people. There are transfer windows where most clubs buy and sell players, but unlike a dance company that will put on a production, the entire performers' list can change. The variations of the number of people can change from a soloist up to hundreds, whereas football teams will have a relatively stable number of players, around 25 first-team players. Despite the many organisational differences, the experiences of organisational stress reported were very similar. In the same vein, Benjamin, another footballer from a different professional club, described his experience of his organisation which was far more positive:

"I just think it's obviously established now, and it's such a community Run Club, which is good. I think that it's important that the fans and the media team are on your side, and everyone wants you to do well/ I think that's been developed over four or five years. And then obviously, the fact that the club's in a good financial state gives you that confidence, your job secure. All those sorts of things that a lot of other clubs don't have at the moment like Bury and Derby and all those types of clubs where they just go on, they're not got those people there that just got business owners that want the money"

Organisational stressors directly affect competitive satisfaction and influence positive and negative affect concepts (Arnold et al. 2017). These show that organisational stressors can lead to positive and negative results for elite athletes (Fletcher et al. 2006) i.e. Spector and colleagues (2000) suggest that athletes' propensity to positive or negative effects will impact their stressor perceptions. This means that an athlete who inclines to a negative effect, in all likelihood, will perceive a stressor's intensity to be higher (Ferguson et al. 2006). However, Zapf (2000) suggests a direct correlation exists between consistent exposure to high-level organisational stressors and negative affect. Their harmful effect occurs because of the environment as opposed to a predisposition. This has since been the case in other studies such as Fletcher and colleagues (2012), Hanton and colleagues (2012) and Synowski (2003). This data suggests that the environment created by the organisation is the critical factor in whether

an athlete will experience positive or negative effects when attempting to cope with organisational stressors. Alan and Danielle had both been employed by organisations which were run well and others that were run badly. The poorly run ones led to an increase in both the number and intensity of organisational stressors, leading to them experiencing a higher level of negative affect. Likewise, Benjamin, who had a positive experience in his organisation, showed higher levels of positive affect. This came from feeling secure in the organisation, as it provided him with social support and financial security. However, the data suggests that there is a flaw in the way that sources of stress have been categorised. Yes, having secure contracts is an organisational stressor as it relates directly to the organisation, but it will also affect other areas of life.

Danielle went on to discuss her experience of pay at various sized companies:

> *"So yeah. I would argue that a lot of times, smaller companies are actually more stressful as a company because there also tends to be the pay issue. It's harder to get your money out of smaller companies, big ones, big ones. Again, they have their processes; they have payroll departments. But you tend to actually only get paid by the smaller companies if you chase them and chase them, and it tends to not be a big amount of money anyway, so you chase as it all adds up. I get that it's maybe one person in charge of organising everything compared to a team of people, and that becomes a stressor in itself. Because if anything, you feel like you've put more work into it because, as I said, we all help out with everything. We put loads of work in helping to make the production go ahead, and then you take the money afterwards, which is the other side of it as you're a human being. You've got bills to pay. And then you've got to pay bills, say you've got petrol put in your car, you've got food by the end of the day, you don't get paid. You can't put petrol in your car. How you're going to get the next job. So, I'd say a lot of the little companies actually tend to be more stressful. There tends to be an organisation and a lack of it, rather than like the people specifically or anything like that."*

This experience demonstrates that sources of stress cannot always be easily categorised into one category. Danielle's source of stress was an organisational one, as the source of her distress was related to the organisation. The fact that staffing was insufficient or inefficient in their role meant that her pay was delayed, causing her distress. However, arguably, this is also a personal stressor. Not receiving her payment in time means she may struggle to pay her necessary expenses, such as food which is unquestionably a source of personal stress. However, the current way of categorising sources of stress (Fletcher and Hanton 2003) doesn't make allowances for the fact that stress can have multiple sources or that one source of stress can

directly impact another stressor from a different source. This has two ramifications; firstly, her source of stress will be improperly categorised, leading to less accurate research. Secondly, it also means that Danielle's lived experience wouldn't be fully captured; thus, some of the insights and meaning that could be derived from her experience will be missed.

4.4 Personal stressors

This study agrees with the research discussed in the literature review (section 2.3.3.), that personal stressors were the least reported out of the three main categories. All participants discussed personal stressors; however, except for Freddie, they talked about their stressors in much more generic terms. For example, Danielle used the phrase "So like, for example, if I'm having an argument" when talking about personal stressors rather than a specific argument. This contrasted with how they spoke about their organisations and competitive stressors, which were given in more detail. For example:

> *"I had one get angry at me because we were doing this like a contortion act thin. I'm not a contortionist, but I am quite flexible. Still, the other girl that I was working with had hypermobility, like to the point where her joints move so much, she would get injured a lot, and things would pop out, and they [the choreographer] were 'like why can't you do it like that, so I replied 'because my joints work the way they're supposed to work. I don't have a medical condition that allows me to do that. Sorry But they were just like, '; this is the choreography that I've designed, so you need to do it, and I was like, 'you designed it on Girl A* I can't do it.'...*
> *There was just this constant expectation of things that were beyond my abilities. And there was absolutely no regard for my feelings whatsoever, and it was very much like, 'this is what you need to do, and you're going to do it or else' because, at the end of the day, you're a replaceable thing. So, that can be hard on your mental health. "*

Alan and Benjamin also spoke about specific arguments or negative experiences with coaches (see section 4.5), detailing what they said. Still, none gave specific details about negative experiences or conversations with family members or friends. This may be due to the stigma of elite athletes' personal stressors (discussed in section 2.3.3). This is supported by Freddie providing the most quotes regarding personal stressors (5). Freddie was the youngest participant and had the least contact time with his respective organisation, coaches, and teammates, so he may not have developed the culture and stigma of remaining silent that many other athletes face. He also would have received less training which supports Glick and colleagues (2012) work. It posited it is not just an unwillingness to discuss personal stressors but maybe a lack of ability because elite athletes have been trained to continue despite pain.

Alternatively, it could have been because the researcher knew Freddie personally (although not well). So, Freddie may have been more comfortable talking about personal stressors with the researcher, especially since the researcher already had insight into some (but not all) of the personal stressors Freddie mentioned.

Despite the reduced reporting (relative to other categories of stressors), there were interesting findings regarding the relationship between personal stress and competitive sport. For instance, Caleb, a cyclist, discussed work and travelling as his primary personal stressors; however, the sport has helped him overcome these personal stressors:

> *"Work is the biggest cause of stress…. I will sort of try and get on an exercise bike in the gym or not, or try to do some forms of exercise and then it sort of really helps".*

Similarly, Freddie, a fell runner, started participating in sports to cope with personal stressors:

> *"I had the typical teenage college stresses at the time. Yeah, where am I gonna get my work done? Am I going to be able to complete all of my courses? I mean, I think I was doing a similar thing to you; I was doing sports science and to be fair, I did enjoy it. But on top of that, I was having a tough time at home and was stabbed in college. So, obviously, mental health was brought right down and was incredibly low. I started running as a form of escape and to clear my mind. I soon thought, 'I'm actually alright at this', and so started running for my college before making my way through the ranks and ended up running for 'My Country*."*

It is well established in scientific research that physical activity and participating in sport is a stress reliever as physical activity leads the body to release endorphins, a hormone in the body which has an analgesic effect. (Popovic et al. 2022). It also reduces cortisol and adrenaline, which are chemicals that affect physiological responses to distress (Van Paridon et al. 2017. This is why it gets taken up so often by individuals (Lautenbach et al. 2021) and recommended by practitioners (Way et al. 2018. although less often than should be relative to its positive impact (Stanton et al. 2015; Stanton et al. 2014; Phongsavan et al. 2007). However, as Freddie started rising through the ranks on his way to the international level, he had to find new coping methods for the stress he was experiencing because his training became far more intense.

> *"Running was a coping method for me, but as I started competing at a higher level, the demands got higher, and I couldn't run for fun anymore. I tended to try and wind myself down and go for a walk instead of a run. Just get out in nature because I was living in my country* as there were plenty of walks around. Lose your head space in a much nicer environment."*

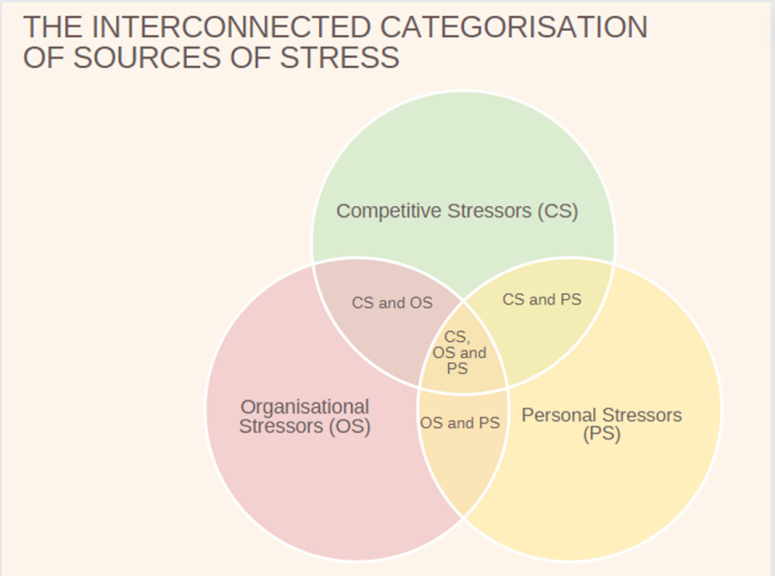
The data collected from Freddie concurs with Kimball and Freysinger (2003) that college-level sports can both increase and decrease the levels of distress within a person depending on how they perceive the stressor and how they appraise the effectiveness of the strategy to overcome it. However, more studies are required to understand the experiences of stress and to cope with amateur sports and the comparisons to elite-level sports (Kleiber et al. 2002).

Additionally, it demonstrates another way that sources of stress can overlap and interact. Running started as Freddie's primary coping strategy and had been successfully moderating his personal stressors. However, as he became more competitive and started becoming more devoted to the sport, it became less of a moderator of stress and more of a stressor of a different source (competitive) because with higher levels of competition come higher levels of pressure, demands and expectations (Páez et al. 2021). With his primary moderator of personal stress now effectively unavailable to be utilised, he is at risk of distress and the associated health problems (Yaribeygi et al. 2017) Thus, his personal stressors and competitive stressors interact with one another in the same experience of stress,

4.5 A new conceptualisation of stress sources within sport

As has been discussed throughout chapter four, the current model of categorisation lacks sufficient depth to be able to explain the sources of an athlete's stress. Whilst it is true that sources of stress are distinct and aren't necessarily related to one another, this is not always the case, so we need something more flexible, which is why the researcher proposes the model below:

Figure Two: The interconnected categorisation of sources of stress



The above model, named 'The interconnected categorisation of sources of stress', utilises a Venn diagram style design. This model style is being proposed because it allows the categories to keep the distinctness of each stressor. However, it is more versatile as it enables stressors to overlap with each category and even all three, demonstrating that they can and do relate to one another. This model doesn't aim to eradicate the current categories (competitive, organisation and personal), and there will be instances when a stressor is only directly related to one stressor category. Both are equally important. For example, Benjamin discussed his experiences of undertaking a degree whilst playing professional football:

> *"I think I tried to keep it separate. I tried to keep football and personal life separate, so if I had to leave in 10 minutes. I'll just leave that all there and try to refocus at a later date. I think you've not got to have those stresses from your own life into football because it just makes it more difficult, I suppose. So, I try not to combine the two too much."*

For Benjamin, the stressors he faces whilst completing a degree are not directly or primarily related to his performance or his organisation; neither does it affect it. Therefore, it is only a personal stressor. This new model acknowledges this by having each source of stress its category. However, athletes also face experiences where their stress comes from multiple sources simultaneously or has a knock-on effect of stressors from other categories. For example, Alan discusses a stressor he faces regarding his coach:

> *"When he's on the side of the pitch, the decision that you want you to make, you can get a little bit of an earful. And it does become stressful, and you start overthinking things. Like there was a time; actually, it wasn't that long ago, when I had the ball, and I heard him behind me saying something, but I didn't want to do that. But because I wasn't clear on what I wanted to do, I hesitated and ended up giving the ball away."*

This shows that for some athletes, the coach trying to communicate with them whilst performing can result in a worse performance. This is because their attention is taken off what they know they are meant to do (Bull et al. 2005). This study supports Tamminen's (2007) finding that a coach's communication style (particularly during a match) was a source of stress. This was also reported by Gregory, who said:

> *"I had one who was absolutely poisonous. He would call it banter, but it wasn't, and he was probably the biggest bully I've ever seen in my life, particularly with the players. He was harsh but yeah, just a real piece of work. His whole mentality behind the game is pretty poisonous. It just saps all your energy, the way he speaks to you, the way he*

talks down to you, it's not how you should work with your players."

This shows that for some athletes, the coach trying to communicate with them whilst performing can result in a worse performance. This is because their attention is taken off what they know they are meant to do (Bull et al. 2005). This is not unique to athletes. We see this in other areas of life; for example, a research study undertaken by Brodsky and Slor (2013) showed that listening to music whilst driving increased the number of driving violations they made. This is because the music takes away the psychological resources to cope with the driving task.

In the same way, competitive stressors affect an athlete when they think they do not have sufficient resources to cope with the needs of the competitive situation (Weston et al. 2009). By the coach trying to communicate with the athlete whilst on the field of play, they are pulling psychological resources away from the athlete. This means they will appraise the communication as stressful and have fewer resources to cope effectively, which has a negative influence on performance as well as their well-being (Lazarus and Folkman 1984). However, other athletes appraised this potential stressor differently, depending on the situation on the pitch. Another footballer, Benjamin, said:

> *"I think sometimes it can [be stressful], but sometimes it can't because if you're in a good moment, you don't want anyone else speaking. But if you're in a bad moment. It can help you refocus."*

Danielle also reported this as a stressor. However, unlike the others who focussed on the coach's communication style during their performance, Danielle focussed on their communication style after their performance:

> *"But I knew after every performance, she [the coach] would be stuck there watching my every move because you get notes as a dancer.And it's literally everything that you can improve on in that show. You get given to you right afterwards on that show. If you feel like you've had a good show, and you've got that end of the show, because after you've finished the show. Oh, that was great. Oh, I felt like it did good on that one. But it all gets brought crashing down by this list of notes. We didn't do that right. You didn't do this, and you need to do that to remember to do that. It feels like a bit of a production machine, and you don't get to enjoy the moment."*

However, whilst the communication may not have taken place during the performance, the experience of it would cause a stressor during the performance next time:

"Because you're now thinking about the next one and like, oh please don't let me do that again. If I repeat the same mistake twice, I'm going to get in trouble for it basically."

As stated in the introduction, the definition of organisational stress is "An ongoing transaction between an individual and the environmental demands associated primarily and directly with the organisation within which he or she is operating" (Fletcher et al. 2006 p.329). Competitive stress is "an ongoing transaction between an individual and the environmental demands associated primarily and directly with competitive performance (Fletcher et al. 2006 p.329). Therefore, only stressors directly related to competitive performance are named competitive stressors (Hanton et al. 2005). Traditionally, the coach's role has been regarded solely as an organisation stressor within sports psychology research. (See: Simpson et al. 2021; Arnold et al. 2018; Steadman 2016; Sarkar and Fletcher 2014). However, the combination of the three experiences above strongly indicates that the coach's role is not only specific to the organisational stressor category but can overlap with other categories. The stressor of the coach shouting whilst trying to focus on performing well is a stressor that primarily and directly affects sporting performance which pinpoints a flaw in the traditional categorisation of stressors. Stressors inherently depend on various factors such as human personality and the situation they find themselves in (Schneiderman et al. 2005). Context is vital in appraising a stressor, but the traditional three-category approach is too one-dimensional to allow for different contexts. Having an inflexible model can lead to researchers forcing data into a category that doesn't fully explain and therefore not explain the entire narrative. One of the primary focuses of qualitative research is to tell people's narratives. By having a one-dimensional linear model, researchers could unintentionally not be doing that. This is because it may lead to incorrect data analysis and interpretation as the data has been placed in categories that do not allow for the entirety of the experience to be told, only part of it.

Furthermore, the human experience is not a series of boxes but interconnected experiences. This is why Lazarus and Folkman's model (1984) is so widely accepted; it shows that stressors and coping are instinctively linked and therefore are both required in the same model to explain the phenomena of stress. In the same way, stressors can be interconnected because an individual's life is interconnected. A coach affects far more than just the organisation. They have the potential to increase or decrease competitive stress, as seen in the previous quotes from Alan and Benjamin, and may also influence personal stressors. Putting them in separate categories with no opportunities for overlap means their experience is not being investigated to the fullest degree and may result in less effective interventions as practitioners may be dealing with only part of the problem and not the entirety of it. However, as stated above, the coach's

role is almost always categorised as an organisational stressor. In this context, it is associated with, and directly affects, competitive performance; therefore, there is also a strong argument for defining it as a competitive stressor. There are vital elements of this stressor which are directly related to organisational stress, such as the coach's personality, the relationship between athlete and coach as well as the coach's leadership style (Arnold et al. 2017; Fletcher et al. 2011). This is not to say that it doesn't belong to the organisational stressor category. Instead, the data shows that there is an overlap between the categories as different categories of stressors can directly and equally affect the athlete simultaneously. Furthermore, this stressor may not only be a stressor in and of itself but also increase the number and intensity of stressors, leaving the athlete experiencing increased levels of stress and less able to focus on their performance.

Alan went on to say:

> *"My family often watches. My manager can get quite lively, and it's a very different environment to a normal workplace. There are a lot of things said in football that you can't say to someone elsewhere; it's just how it is, and I understand that. But obviously, my family might not. So, my managers might be getting all passionate and screaming my name whilst mum is in the stands, so sometimes I wonder what she's thinking."*

Having spectators there, even lots of spectators, didn't bother Alan that much as he said:

> *"I've played in front of 4000- 5000 fans, so it's luckily something that I'm pretty used to, and I've grown up with."*

So spectators alone didn't stress him or negatively affect his performance until he appraised the coach's behaviour as stressful. This is another strong indicator that the traditional categorisations of stressors are too one-dimensional. Not only can different categories of stress overlap and be linked together, but individual stressors can be too. Spectators, as individual stressors, are regarded solely as competitive stressors (due to the fact that it is primarily and directly related to the performance). However, stressors are not necessarily individual phenomena unlinked to other phenomena or anything else in the human body. It is too restrictive to say that a particular stressor is simply this category as it misses out on so much context and perspective that could lead to further insight into why and how athletes experience stress and coping. Because of this, the researcher proposes a new model of categorising stressors within the sport to enable a more significant relationship between the types of stressors.

The theme 'competitive stressors' received the greatest number of quotes from participants.

Elite athletes are highly disciplined individuals with high work rates, and they strive for competition in an environment where there is constant stress and pressure to accomplish (Lee et al. 2017). This is why the source 'competitive stressors' was placed in the most prominent position at the top of the Venn diagram because it's competitive stressors which permeate relationships with their organisation (e.g. their club) and the relationships within their personal lives (e.g. family members); Gregory said:

> *"Being a full-time athlete does have an effect on your family as well because it drags you away so much, especially if you're in a different part of the country. But yeah, it has a big impact on your relationship, on your family, on your social time too, you don't get any social time".*

As previously discussed, athletes tend not to let personal stressors affect their performance for a variety of reasons, such as their training and sporting culture. For example, Danielle discussed her experience of personal stressors and elite performance in the dance context:

> *"I'm not sure if I'm allowed to swear in this, so I won't, but things happen. Sometimes, they're upsetting things. But when you come to perform and you have to push it to one side, regardless of what it is."*

Because of this, elite athletes must be able to cope with the stresses and strains of elite sport and those that come from their personal lives and being part of an organisation (Mclean and Penco 2020). However, whilst some athletes try to put the various aspects of their life in 'boxes' (for example, separating their personal life from their sport), this is not possible for long periods.

As a result, the three sources of stress (personal, organisational and performance) can all influence and impact one another. The data and data analysis throughout this chapter has demonstrated how each stress source doesn't necessarily stand alone and that other stress sources will impact them. However, the data also suggests that all three sources of stress can affect each other simultaneously. For example, Gregory, a rugby player, discussed an experience about the lack of security he felt as a younger player, needing to prove himself to get another contract:

> *"When I was younger, my most stressful time was when it was contract renewal time. When it's that time. You play harder and are more like to get injured as well if you try and push yourself too much. And you know that Being younger, you're trying to find a contract somewhere, and it's hard because obviously your dreams are gone if you don't get one. I' would stress about that and then everyone else does as well because you're*

feeling stressed, and they feel stressed because of it."

Gregory's stressor was his desire for a new contract, which is an organisational stressor as it is primarily linked to the organisation. However, his desire for a new contract significantly affected his competition and his personal life. In his desire to impress the coaches and be kept on the playing roster, he adapted his playing style, but he knew there was a greater risk of injury. This supports Dillard's (2019) suggestion that threat and challenge appraisals don't necessarily occur as a stand-alone appraisal; there will tend to be both factors of potential loss and potential gain within an individual's secondary appraisal of the stressor. Gregory appraised the situation as a threat as he knew there was a risk of getting injured. He also appraised it as a challenge as he saw an opportunity to prove himself and obtain something he wanted (a new contract). Additiontally, it was also a source of stress as it started to impact personal relationships. Because Gregory was stressed, the people around him, i.e. his family and friends, also became stressed. As stated previously, with the new model, stressors interact with one another. For many athletes', sport is their livelihood and passion, and it intersects with every aspect of their life. Therefore, to more fully understand the sources of stress that athletes face, sources of stress need to be categorised in a way that allows for each source of stress to be distinct but also demonstrates that they overlap with one another. This experience is further evidence that the current linear categorisation is insufficient. In this quote, all three sources of stress are evident in the same life experience. Under the current model, one could claim that any one of competitive, organisational or personal stress is the source of stress and be correct. Under the new model, 'The interconnected categorisation of sources of stress', this is factored in and so fits into the framework and can be categorised, making it easier for academics and practitioners alike to help athletes appraise and describe stressors.

4.6 Coping Strategies

In total, eleven coping strategies were discussed by the participants. Food n=3, alcohol n=3, breathing exercises n=3, motion n=2, ignoring the stressor n=5, discussing the stressor n=5 breaking the stressor down into smaller chunks n=4, suppressing it n=4, trying to feel positive n=5, imagery n=5 and pre-performance routines, n= 7.

4.6.1 Talking about the stressor

In general society and academic research, talking about one's stressor is perceived as an effective way to reduce stress **(**Lepore et al. 2000**).** It is the foundation of many psychotherapeutic treatments (Stiles 1995). Empirical evidence suggests that individuals who communicate their stress will experience greater physical and mental health (Patel and Patel

2019), whether verbally (Ojebuoboh et al. 2022) or in writing (Sohal et al. 2022). More specifically, the research suggests that communicating stressors has a direct effect on decreased distress (Garcini et al. 2022), enhanced immune system functioning (Segerstrom and Miller 2004) and increased positive affect (Hangen et al. 2018). Much of this research was undertaken within the general population. However, research has also demonstrated that athletes who experience a high level of social support experience better mental health (Riahi et al. 2011). Consulting others may make it easier to positively accept such experiences without prolonging emotional pain (Nagai 2018). Hence, by talking to someone, athletes can try to improve their hurt feelings and self-perception of being fragile and weak, calm down, and maintain good mental health. Despite the amount of empirical research suggesting that discussing stressors can have significant positive effects on coping, several athletes found it detrimental. Alan was one of these athletes. He spoke in further detail about the experience of his manager shouting at him on the pitch:

> *"In terms of a solution, I haven't gone out and done anything, I just put it in the back of my mind, but in all honesty, I just ignore it and just try and play my own game. Because he picked me for a reason to play on the pitch, so he must want me. So rather than worrying about it, I just play my game. And if that's not good enough for him, then he can pick someone else. So yeah, I guess I haven't done anything. I haven't spoken to him. I haven't done anything like that. But just in my own mind…*
>
> *I find that when I spend too much energy worrying and talking about it, and it's in the forefront of my mind, I find that stresses me more. Whereas I'm not talking about it, it's almost like it's not that if that makes sense. So, like what I was saying earlier about the manager screaming, at first, I talked about it all the time, which meant I was constantly annoyed. Now I just got to the point where I just don't even try to talk about it because then it's not in my mind. And I'm not worried about it if that makes sense.*

Danielle, a dancer, expressed similar experiences:

"I find talking doesn't help because my brain has tangents. What if this happens? What if that happens? And that if anything is stressing me out, more people say, oh, you just need to get it off your chest. It'll make you feel any better when it comes to that high level of stress that has never worked for me. It's almost like I need that self-reflection. That's contemplative. That's a great word."

Caleb, a cyclist, was another athlete for whom talking didn't have a positive effect. However, he did notice others using talking as a coping mechanism.

"During my warm-up, you'd always get people coming up and talking to you. And then what I would do is I would turn my bike away so they couldn't make eye contact. but it's because they're nervous, and their way of controlling is to talk to everyone. And then say, "it's quite windy today, or it's cold", but what they're actually doing was actually proving to themselves their negative thoughts. Because they're looking for reassurance."

They are three athletes from three different sports and of three different ages but had similar experiences of coping with stress. One that, on the surface, seems to contradict the literature that says social support is a moderator of stress but it actually aligns with Gardeau and Blondin's work (2004). Whilst all three were communicating their stressor, they were actually disengaging from it. They were 'venting', a disengagement technique used to cope with the emotional dimension of the stressor but doesn't deal with the stressor itself. A study by Dijkstra and Homan (2016) found that venting negatively correlated with perceived control. This is because venting doesn't help an athlete assess or deal with the stress and thus reduces health and well-being (Leonard and Alison, 1999). For example, in Alan's case, he didn't go to the manager directly and discuss it with him. Instead, he used communication, but to people, and in a way that would not reduce or eliminate the stressor, which meant the stressor would still be there in the next match. While still communicating about the stressor, it uses a task-focused strategy as he engages directly with it to eliminate it. The study by Dijkstra and Homan (2016) showed a correlation between perceived control and high levels of health. However, they also state that social support was not related to health or control and was not an effective coping mechanism. This is because, whilst one would assume it is a task-oriented coping strategy (as one seeks out another individual for help proactively), it is also dependent on the opportunity to receive support from an appropriate person and the search being successful (Dijkstra and Homan 2016). For example, If Alan spoke to his manager regarding his stressor, he may get rejected, which could add to his stress (Omoankhanlen 2022) However, this data contradicts the academic literature because he also engaged in another disengagement strategy that did help him to cope (Waugh et al. 2021; Altamura et al. 2019; Braun-Lewensohn et al. 2019). The literature review discussed coping strategies such as imagery and self-talk. These were selected to be reviewed as the two most prominent and commonly used coping strategies that athletes use to attempt to cope with performance, organisational and personal stressors. Interestingly, none of the athletes interviewed discussed these. However, Alan utilised denial, a form of coping where one withdraws from the stressor by refusing to acknowledge it. This is generally considered a maladaptive coping strategy (Makarowski et al. 2020). However, for Alan, withdrawing helped him cope more effectively as he successfully took it out of his mind until the stressor had no effect on him and ceased to cause stress.

All three (Caleb, Alan and Danielle) came from different environments. Nevertheless, they all found that opening up and discussing their stressors had a negative rather than a positive effect on their coping ability. However, both attach different reasons to this:

> *"I'm a laid-back person, I think. So, I just shut myself away. And if I have got any stress, and someone offered me a sports psychologist, I probably wouldn't go and see him. I'm like that in life too, and my missus is always like, you need to open up and tell me what's wrong but that I just like to deal with it myself, it's just how I am…. My brother has mental health issues, and he is very open and talks through things a lot. That's helpful for him, but for me, I like to do it myself".*

Whereas for Danielle, the environment in which she competes demonstrates why social support isn't an effective coping method for her:

> *"Sometimes, you can't stop it from affecting your professional life. We have this is quite an old-fashioned school of thinking, but within the arts, we have this saying,' leave it at the door'. Whatever is going on in your personal life, you leave it like you're not allowed to have personal things going on".*

This experience, combined with the previous research, shows that the environment can be a critical factor in whether talking is an effective coping method. Danielle works in an environment in which talking about stressors is frowned upon. The previously mentioned research (Riahi et al. 2011) stated that emotion-focused strategies such as talking were helpful when the athletes had high levels of social support. Danielle's environment doesn't allow for high levels of social support and may have affected her ability to utilise talking as an effective coping strategy. However, this is not to say that the environment is the only contribution or that our coping mechanisms come solely from nurture. Her experience also points to humans having innate traits which may lead one closer to a particular coping strategy. In Danielle's experience, there was no difference between her personal and professional experiences of coping under stress. When asked if there were differences in how she coped with her personal and professional life, she replied:

> "*No, I'd say I am the same in personal life as well. So, like, for example, if I'm having an argument. Breathing is one of the main things that help calm me down. I'm getting stressed out, but you don't want to be because that, like logic or whatever, will get thrown out the window. So, I absolutely do that in my personal life. Just as much as I do professionally because I think it's just what works for you. It's regardless of the situation unless we're talking about it in the sense that like if I'm stressed at home,*

sometimes I will have an alcoholic drink, but I think we all do that.

I like the idea of meditation, but I hate using that word because everyone has this stereotype of what meditation is like sitting crossed-legged on the floor going 'om'. as far as I'm concerned is just how you still yourself, whether that be physically or your mind, for some people that is lack of activity. But I'm one of those people that require a stimulus. It's like two different types of people. For example, If I'm struggling to get to sleep, I will put some soundscape on my phone because that white noise helps my brain shut off instead of finding that noise annoying. It's just. I think my methods are similar. For example, if I'm stressed whilst training, I'll play music."

Caleb concurred with the idea that it was due to his environment and previous experience rather than his innate character. Caleb served in the military, a highly disciplined environment where he was drilled to always do everything in a certain way:

"I was trained to effectively be a medic for the Air Force. And the thing was with that I've got, I think most people direct service people you've got issues in terms of like my wife takes the mickey out of me and my sons because I love hoovering. When I hoover, I clean in the same direction. I do things in the same way, so that comes back to how I prepare before a race because it's controlling that. But I think it probably stems from my training".

Caleb had spent his working life in environments where it was very regimented and controlled. This then affected his experiences of stress and coping in other areas of his life as he learned through them. This data suggests that effective coping involves a mix of 'nature' and 'nurture'. Humans do require varying levels of stimulation (often split into introvert- low level of external stimulation are needed and extrovert- high levels of external stimulation are needed (Demir and Hilal 2022). This cannot easily be changed; Kagan and Snidman (2009) undertook studies of babies, giving them new items they had not seen before. Some reacted strongly, crying and thrashing, whereas others reacted more calmly about their exposure to the new stimulation by taking an active and curious interest in the items. Kagan and Snidman (2009) followed up with the participants years later. They found that those who reacted strongly as babies were significantly more likely to be fearful and anxious adults than those who reacted strongly to the new stimulation and were more likely to take risks. However, other research also suggests that coping with stress is a learned skill (see: Srija et al. 2019; Anton et al. 2018) that can be taught by practitioners (Hassan et al. 2022). Giacobbi and colleagues (2004) conducted a study with female 1st-year university swimmers. Their study found that the athletes utilised specific coping strategies (most often emotion-focused), but others developed through the twelve

months (most often task-focused coping). They posited that this was due to adapting their coping mechanisms as they faced new or different stressors.

4.6.2 Transient coping mechanisms

Alan also adapted his stress as he got older and gained more experience. He discussed how, as he got older, his mindset changed, and he became more effective at coping with stress*:*

> *"I'm laid back, like I don't overthink things like I've been in football for a long time. And when I was younger, if I had a bad game on a Saturday, that'd be it. My weekend was ruined. Sundays are meant to be spent with the missus, and I don't want to talk to her or do anything. But, as I've got older, if we've had a bad loss on a Saturday, I'm still probably not the best person to talk to. But I cope a bit better than what I did. It does sometimes cross over naturally because I'm a competitive person. But in terms of the comparison from when I was younger to now, I'm much better. My mindset is different from when I was younger. I think that's just you mature as you get older, and you see situations differently".*

The experience of stress, regardless of the source, may enable the individual to grow in new coping mechanisms. Eubank and Collins (2000) found similar results in a study undertaken with teenagers (age range 14-18). They found that youth athletes utilised similar coping strategies but adjusted them depending on the stressor and intensity. This contrasts with the data from this study in which the athletes said they used the same coping methods regardless of the source of the stressor. This may come down to age and experience. In this study, the youngest participant was 24. Teenagers' brains are generally more malleable and versatile than adults (Osher et al. 2016). This is because the prefrontal cortex is more flexible for learning as they are faster at making neural networks vital for complex cognitive processing (Uytun 2018) and have not suffered degenerative brain changes that occur as humans get older (Peters 2006). Danielle's experience supports this as she discussed how her coping mechanisms changed as she grew in experience:

> *" I've had it before were not my family members specifically, but someone close to me. A family member had died. And I found out when I was training, and I was devastated and was sent home And I was like, well, I can go home. But at the same time, I've still got to come in the next day. So, if I don't figure out how I'm going to cope with this now, how can I cope with it tomorrow or the day after that or the day after that? I need to get a handle on this. So, I guess it's just coming up with your own coping mechanism. I think this is one of those things we learn through experience. So, I was a*

lot younger than when that happened. Now I feel like if something like that happened again, obviously, it would affect me, But I think I could handle it better. I would know what support I would need. It also depends on when in the process it happens. If it's an early rehearsal, I will go home, but if it's The last one before a performance, I'd stick it out and keep it together until I get home. I think it's just an experience in that regard."

However, personal situations do not necessarily have a negative effect on performance. Danielle brought up another example of a personal situation which affected her competitive performance, but this time in a positive way:

"I went to an audition on my 21st birthday. It was a long one, and I think it was about 6 hours. And part way through this audition, which I was struggling with. I literally just had this lightbulb moment of why am I getting upset on my birthday? I should be enjoying it. What's the point of me being upset about it on my birthday? So that day I took, if anything, the personal side of it actually made it easier for me to get through the professional side of it."

Danielle's personal life affected her professional life as it helped her to find meaning within her stressful experience (Dubow and Rubinlicht 2011) (sometimes called "cognitive reappraisal" (Toh and Yang 2022, p.643). Attaching meaning to the stressors allowed Danielle to view her stressor in a different, more positive, light. This cognitive skill is a key factor in adaptive adjustment (Ching et al. 2011; Pakenham and Cox 2009). It is also another argument in favour that coping is more about nurture over nature. Personal/professional stressors overlapped and interacted with one another on two occasions. In the first quote, her grief had an effect not only on her well-being but on her performance. She was unable to continue the practice, which will impair competitive performance.

4.6.3 Perceived Control in Coping

Caleb, a cyclist, noted that in his experience, coping was often about control.:

"I have a defined set routine in terms of getting the bike out and pumping the tires up because we run high pressures. Put the computer on and put my kit on. And I'll put it in a defined order on the back end in the back of the car? I know that every time I do that, there's no variation, so therefore, I'm in control, which then helps the nerves. Then I'll go 30 minutes before my allotted time because you go off in one-minute intervals t. I will then lock the car, and then I'll stop my warm-up. Then I'm back at the car just after 20 minutes, and I'll have more energy drinks before going to the start line.

When I first started time trialling years ago, I didn't have a routine. And I was fussing over my equipment, and then you don't do a proper warm-up by the time you actually get to the start, actually mentally quite tired. And you're not in you're not in a position then to actually be able to perform how you want to do, so it's just basically controlling the controllable. But it means that up to that point of control is just about the performance, and it made things a lot better for then when I used to race with Man A, he would be quite scattered with his kit, and that used to frustrate me so he would have his up the front of the car and I would have mine at the back, and I would just stick to that routine, and it worked well for me."*

The relationship between perceived control and coping effectiveness has been studied abundantly (Hatunoglu 2020). For example, a study by O'Connor and Shimizu (2002) investigated the correlations between perceived control, distress and the effectiveness of their coping strategies using participants from Britain and Japan. The Japanese participants demonstrated significantly lower feelings of control but demonstrated a higher level of distress and low mood. The study concurs with previous research, which suggests that the more in control an individual feels, the more likely it is that they will in take part in thoughts and behaviours that have positive outcomes (Wallston 2015), such as enhanced mental health (Lyubomirsky and Layous 2013), reduced pain (Thompson and Kyle 2021) and a greater ability to cope with stress (Bhanji et al. 2016). This is due to, in part, self-efficacy. Athletes who do not think they can change their behaviour are unlikely to do the necessary work. (Thompson and Schlehofer 2020) If they are experiencing helplessness, this can be compounded even when a course of action is possible for the athlete; they will be unlikely to take steps to make positive changes (Seligman 1975). Caleb knew that certain things were in his control. He knew he could pack and prepare in a certain way that would be the same each time which helped give him peace of mind as he was not worrying about little things that could go wrong because it had already been done. When he faced another stressor (His team-mate Henry, who didn't have the same routine), he arranged for their kits to be in different places. This means he would not experience stress, anxiety or frustration, nor would his team-mate with their contrasting styles. This would lead to greater well-being, performance and team relationships. He changed the environment to suit him.

This works when it is something the individual can control; however, they cannot control everything. Alan stated his experience, showing that the stressors outside his control were the most intense:

"I think the competitive stressors outside of my control are the worst. Things like the opposition stress me because they play a certain way. For example, they kick it long.

The referee is another one. So, I try not to let it stress me out because I know that I have no control over it. Same as if we're losing or we concede a goal, and I didn't think that we should have. That; is stressful because a lot of the time, it's not in your control, but if you still do find yourself stressed from that situation, that makes sense. So definitely, conceding a goal and losing or not winning."

Alan knew that the opposition's tactics or the referee's decision-making would be outside of his control, and he would be unable to change it, so instead he opted for the second strategy to accept what he was unable to change. He couldn't change the team's tactics or the referee's decisions, so he knew he had to accept them, which enabled him to feel less stressed as he was not getting riled up and what he couldn't change. Benjamin had a similar experience but combined both the primary and secondary perceived control.:

"I think now it's just a case of being positive and don't dwell on it because that's probably not going to get you anywhere. You just need to continue to work hard or work harder and have the right attitude and do the right thing. Like to be the best version of yourself."

Esther also talked about perceived control but in a different context. Unlike Alan, who found competitive stressors out of his control the hardest to cope with, Esther, a hockey player, found organisational stressors outside her control the hardest to cope with, specifically travelling.

"Travelling is stressful because there are so many things that can go wrong. I fly quite a lot, and there's always so much to do, and so much that can go wrong. You have to be uber organised with passports, packing etc. because you don't want to be held up. Being held up means potentially missing out on training, or worse, matches. I always check and recheck everything to make sure I've not missed anything."

Esther utilised primary control as she attempted to cope with the stress of travelling, as she believed that her ability to travel without an issue rested on her. She displayed this by rechecking her packing. Benjamin combined primary and secondary perceived control. This allowed him to control the things he was able to. He was in control of his attitude, worth ethic, training and performance. He took responsibility for that and worked as hard as possible to be the best he could be. He tried to influence the environment by aligning himself and his wishes. However, he was also aware that it was impossible to influence everything. That is when he utilised secondary perceived control, which allowed him to accept certain things about his environment he couldn't change, so he changed his mindset instead. Another way of helping athletes overcome stress which has been supported by empirical research (Mcloughlin et al.

2022), is to help athletes appraise stressors as a challenge rather than as something potentially harmful (Lazarus and Folkman 1984). In Benjamin's case, looking at motivation and goals underpinned by Richard Lazarus' (1999) work would be helpful. An athlete will experience different emotions depending on whether they view it as congruent with the goal or incongruent (Smith and Kirby 2009). This involved the athlete appraising whether this stressor/situation is relevant to his/her goals (Lazarus1991). When appraising the motivational relevance of a stressor then, the athlete must ask themselves whether the stressor fits with their goals (Smith and Kirby 2009). Benjamin's goal is to play as often as he can for the first team, and the stress of not knowing will cause him to experience distress. This was aided as he got older by the fact that he experienced esteem, safety and belonging. He has prestige as a senior member of the team (and captain), which has allowed him to cope with the pressure more effectively. However, another way to help cope with the stress is to see being dropped or having an insecure place in the team as a challenge. Alan spoke about his experiences as a young player and realised that he didn't allow the situational stressor to challenge him:

> *I look back at my time when I was younger, and I used to blame everyone else. I used to tell myself I was not in the team because my manager didn't like me and things like that. I do regret not taking my own career into my own hands rather than saying I'm not playing on Saturday because the manager hasn't picked me. Now I look back, and I think, was I doing enough to get fit? Was I actually doing enough myself to get picked? I look back on it now, and I don't think I was."*

Again, Alan reflects on his previous observations, thus evidencing these experiences went beyond his own but now tries to put the coping mechanisms in place for them that he never received:

> *"And I see a lot of this, we get a lot of loans from bigger clubs, And I see them making the same mistakes, like getting frustrated and blaming others. I try and help them. For example, I was travelling with one of the young lads to a game. And he was moaning about doing a gym session on his own. And I used to be like that. I remember having to go in on a Friday and do a gym session on my own and not doing it properly. Now I tell him you will only benefit from doing a gym session. Right? It's not going to hinder you. If you do it properly, I would definitely say my mindsets change now. And I take full accountability for myself."*

Alan is now a senior player at his club, albeit at a lower (still professional) level than his previous club. A more professional mindset enables him to cope with stress more effectively, which helps his health, well-being, and performance. Academic research has demonstrated that

regularly experiencing life stress affects athletic performance (Arnold and Fletcher 2021; Arnold et al. 2017), physical health (e.g., heart disease) and mental health (e.g., depression and anxiety) (Simms et al. 2020; Roberts et al. 2019; Slavich and Shields 2018). These experiences result from psychological responses such as cognitive appraisals (Yang et al. 2021) and biological responses from the sympathetic nervous system (Won and Kim, 2016). In theoretical and empirical research, it is widely stated that stressors result in adverse outcomes for the individual (Mcloughlin et al. 2022). However, the data collected in this investigation demonstrated that the opposite effect is or at least can be true. Most of the athletes became more adept at coping with stressors as they got older and became more experienced. This is supported by other studies, such as Roy-Davies and colleagues (2017), which showed that stressors such as injury could lead to positive outcomes for the athlete, for example, stress-related growth. These contradictions in findings are likely due to the individual athletes involved and how they appraise stressful situations (Lazarus and Folkman 1984).

* Please note: The participant mentioned a specific person/team, but to help preserve anonymity, the phrase was changed by the researcher.

4.7 Summary of results and discussion

The most significant finding from this study is that the most commonly used model of categorisation of stressors is insufficient to describe and explain elite athletes' experiences of stress and coping within their sport. Therefore, the researcher created a new model to categorise stressors. It keeps them as three separate sources of stress, as is sometimes the case, but also allows them to overlap and interact. This should be of particular value for researchers to enable them to study athletes' experiences of stress more holistically. It will allow them to continue categorising stressors to enhance our understanding of stressful experiences in sport but more richly by providing a structure for them to demonstrate how stressors interact.

A second finding from the data collection was how stressors and coping strategies change as players get older or their status within the team or sport changes. These could be both positive and negative. For example, as Benjamin became a more established player in the team, he was given a greater level of security which helped him to cope with competitive stressors because he knew his manager trusted him even if he had a bad game. Whereas for Danielle, as she got older, her fear of injury became much stronger and harmed her performance as she was less confident and willing to perform routines that may injure her. These findings support the idea that coping strategies and skill levels can continue to develop throughout one's career (Apgar and Cadmus 2022).

Chapter Five: Conclusion

This research's main aim was to better understand elite athletes' experience of stress and coping mechanisms. The results revealed two significant findings:

1. The most commonly used model for categorising sources of stress in elite sport is insufficient to describe and explain elite athletes' experiences of stress,

2. Stressors and coping strategies change as athletes get older or their status within the team changes.

The aim was achieved by fulfilling the following five objectives:

1. To critically review the current stress and coping literature to establish a literature-backed purpose for this study. The researcher undertook a literature review to understand the historical and current academic literature on the stress and coping fields, specifically within elite sport. In addition, the researcher undertook a literature review to explore gaps in the knowledge and create a purpose for this study. The researcher found that individual sources of stress and coping strategies were often studied as separate phenomena rather than interconnected and overlapping phenomena. This helped form the purpose as the study focussed on if and how these phenomena are linked.

2. To report athletes' experience of sources of stress and the effectiveness of any coping strategies currently used. A table was produced to report data on each source of stress, their coping mechanisms and whether they were evaluated. In chapter four, the results of the study were presented and discussed. They were then discussed with examples using direct quotes from the participants.

3. To critically understand the nature of interactional properties and their impact upon coping. This research study investigated the phenomena of both stress and coping together to investigate how they interact. The researcher asked each participant how effective their coping strategies were and how different stressors and sources of stress impacted their coping.

4. To provide implications for practice to enable athletes to buffer stress sources better. In section 5.2, implications for practice are provided. These give practitioners such as coaches and sports psychologists ways to help their athletes cope with stress more

effectively, perform better, and increase their health and well-being.

5. To make recommendations for future research in order to further knowledge surrounding the sources of stress, an athlete's coping mechanisms and their effectiveness. In section 5.3, recommendations for future research are provided. These are based on the two main findings mentioned at the start of chapter five. Whilst this study has helped to progress the understanding of stress and coping within the sports psychology field, there is still work to be done in fully understanding sources of stress, coping mechanisms and how it changes as an athlete gets older.

5.1 Evaluation of Research

The exclusion of demographic differences in sporting stress literature can be attributed to academics often recruiting homogeneous samples, either male or female participants, of athletes participating in the same sport (Arnold and Fletcher 2021). A wide diversity of athletes is required to thoroughly investigate elite athletes' stress experiences (Arnold et al. 2015). Thus, the researcher aimed to select a mix of male and female participants and a range of sports. It is important to note that whilst the research aimed to recruit from a wide range of athletes; this is not explicitly a study investigating demographic differences.

Whilst undertaking research, it is vital for researchers to recognise the limitations of their work (Simbula 2010; Austin et al. 2005). One limitation identified within this research is the extent to which the athletes were truthful about their experiences of stress and coping. There is often a disconnect between how one reports their feelings and their actual behaviour (Nakamura and Csikszentmihalyi, 2014; Funder et al. 2007). Due to the problematic nature of the question and the stigma often attached to it, the participants may be reluctant to be completely honest if such responses portray them as unable to cope with the demands of their profession (O'Dowd et al. 2018). Additionally, self-reporting can lead to socially desirable responses, whereby athletes report inaccurately to present themselves in the best possible light or say what they think the researcher wants to hear (Creswell 2014).

Given that coping strategies are essential for performance, the potential contradictions between self-report and real-world behaviours are a limitation (Ivarsson et al. 2018). The researcher put several strategies in place to try and minimise the chance of socially desirable responses. Firstly, all interviewees were aware that their data would be kept anonymous through every stage and would be with any future publication, so there is no pressure to respond in a socially specific way (Lipworth et al. 2017; Ananthram 2016). Secondly, the interviewer only gave a brief overview of the interviews to prevent priming responders from answering in a specific

way (Steenkamp et al. 2010). It is also essential to make sure the interviewees are comfortable so the interviews take place at a time and location that is suitable for them (Brunk 2010). Finally, the interviewees were told that there were no incorrect answers, and they were encouraged to use personal stories and experiences to support their answers (Ananthram 2016).

Butcher and colleagues (2002) suggested that athletes who do not cope effectively with stressors are more likely to withdraw or be deselected from competitive sports. Thus, research that investigates athletes who are ineffective at coping with stress(Tamminen 2012). However, with this in mind, the researcher included athletes from various sports and sporting organisations to display how it can be transferred across different sports and types of sports (i.e.individual and team sports). Thus, the research still fills an important gap in the literature by improving our understanding of the stressors faced by athletes and the coping mechanisms they utilise.

5.2 Implications for practice

The researcher has attempted to interpret the experiences of stress and coping within seven elite athletes to provide insights that practitioners can use to aid their athletes in coping with stress, thereby improving their performance, health, and well-being.

By using the emerging model, 'The interconnected categorisation of sources of stress', practitioners can educate their athletes on the different types of stressors and how they overlap. This will help athletes appraise them more accurately and utilise more effective coping strategies that lead to short- and long-term performance and well-being. It is crucial to emphasise the long-term because there are examples of coping strategies that reduce stress for a fleeting moment but later have a negative effect. For example, how Alan would vent about his manager's behaviour.

Another implication for practice is to recognise that athletes will have different coping strategies and to encourage them to utilise them in a way that both helps them and is not a hindrance to their teammates. For example, Caleb found it a hindrance when other athletes wanted to talk through stressors during the warm-up, but talking helped reduce stress for those athletes. Practitioners should be aware of those athletes for whom social support is an effective coping strategy and give them an outlet for that, as well as protect those who could potentially be hindered, such as those for whom it is not an effective coping strategy,

5.3 Recommendations for Further Research

One of the contributions of this study was how the experiences of stress and coping change as the player gets older, more experienced or changes their status within a team. However, this has brought up more questions regarding why and how this is. This study consists of hour-long (an approximate average) interviews; however, this is insufficient to answer the previously mentioned questions. For example, with the average football career being eight years (PFA n.d.) a longitudinal design could lead to a richer data set. It can uncover the sources of stress and coping strategies more closely as they develop across a career and potentially be more effective at uncovering chronic stress than episodic stress alone.

The other contribution of this study was that the researcher also proposed a new way of categorising stressors within elite athletes. This model, named 'The interconnected categorisation of sources of stress', aims to provide academics with a richer way of categorising stressors within their research by demonstrating that stressors are not necessarily linear but may overlap. As mentioned in the limitations, this model was proposed from a small data sample of elite athletes from the United Kingdom. Therefore, further research will be required to assess the effectiveness of this emerging new model within varying sporting contexts and cultures.

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