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Game on: addressing anxiety in professional sports and identifying effective coping strategies

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Thesis

**GAME ON: ADDRESSING ANXIETY IN PROFESSIONAL SPORTS AND
IDENTIFYING EFFECTIVE COPING STRATEGIES**

by

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DEDICATION

I would like to dedicate this work to my mother Maria Salazar, my brother Roger Salazar Jr., and my dog Lima.

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I would like to express my deepest gratitude to my thesis advisor, Dr. Keith Tornheim, for his exceptional guidance, unwavering support, and patience throughout this process. I am also sincerely thankful to my second reader, Ms. Lewis, for her meticulous review and valuable contributions, which have greatly enhanced this work.

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ABSTRACT

Over the years, researchers have made significant strides in understanding the physical ailments that athletes may encounter throughout their careers. This work has proven to be instrumental in developing preventative measures to reduce the occurrence of physical injuries. However, far less attention has been given to the mental conditions athletes face, specifically anxiety, and its impact on performance. Consequently, there is little information on the effectiveness of the current strategies for managing or preventing anxiety in athletes.

This literature review aims to examine how anxiety influences athletic performance and identify effective coping mechanisms that are available to athletes. To achieve this, the review provides an overview of generalized anxiety disorder (GAD), a chronic condition that impairs cognitive function. The demand of high performance in sports can exacerbate GAD symptoms, specifically for elite athletes who must navigate multiple stressors.

Following the discussion on GAD, the review shifts its focus to Competitive Anxiety (CA) and its three components: cognitive anxiety, somatic anxiety, and self-confidence. Understanding the interplay between these three factors is essential in understanding the effects of CA on athletic performance. Moreover, this review examines

how anxiety manifests differently depending on gender and the type of sport; whether it's individual or team-based.

Lastly, this review assesses the coping strategies athletes use to manage anxiety and evaluate their effectiveness, distinguishing between those best suited for individual settings and those more effective for team-based environments. Individual athletes may benefit more from self-regulation techniques such as visualization, mindfulness, and cognitive restructuring, while team-based athletes might find collective strategies—such as goal-setting, team rituals, and open communication—more impactful. Recognizing these distinctions is essential in developing tailored mental health interventions that address the specific challenges athletes face in different competitive environments.

In conclusion, a deeper understanding of these variations in anxiety will not only pave the way for targeted interventions that enhance performance and foster resilience but also contribute to a broader shift in sports culture—one that prioritizes mental well-being as much as physical health. By integrating these insights into training and support systems, athletes can be better equipped to navigate the pressures of competition while maintaining their overall well-being.

TABLE OF CONTENTS

<i>DEDICATION</i>	<i>iv</i>
<i>ACKNOWLEDGMENTS</i>	<i>v</i>
<i>ABSTRACT</i>	<i>vi</i>
<i>TABLE OF CONTENTS</i>	<i>viii</i>
INTRODUCTION	1
<i>CHAPTER ONE</i>	4
WHAT IS ANXIETY:	4
GENERAL ANXIETY DISORDER?	4
GENERALIZED ANXIETY DISORDER IN ATHLETES.....	7
<i>CHAPTER TWO</i>	9
COMPETITIVE ANXIETY IN SPORTS	9
<i>CHAPTER THREE</i>	17
COMPETITIVE ANXIETY ACROSS GENDER & AGE	17
<i>CHAPTER FOUR</i>	22
ANXIETY IN INDIVIDUAL VS. TEAM SPORTS – A COMPARATIVE ANALYSIS.....	22
<i>CHAPTER FIVE</i>	27

ASSESSING COPING STRATEGIES AND TREATMENTS FOR MANAGING ANXIETY.....	27
COPING WITH ANXIETY IN SPORTS.....	32
INTEGRATING FRAMEWORKS TO COMBAT ANXIETY	36
<i>CHAPTER SIX</i>	40
DISCUSSION.....	40
<i>BIBLIOGRAPHY</i>	46
<i>CURRICULUM VITAE</i>	54

INTRODUCTION

Many researchers have dedicated their efforts to understanding physical health problems, which are undoubtedly important. However, not all health issues stem from a physical nature. Psychological symptoms can be equally debilitating, yet they often receive less attention despite their profound impact on individuals' lives (Rice et al., 2016). This literature review seeks to address this gap by exploring the effects of anxiety on the mental health and performance of a specific population. The population that will be reviewed are athletes.

The primary aim of this review is to deepen our understanding of the different variations of anxiety that athletes are exposed to throughout their careers and to evaluate the coping strategies available to them. For the purposes of this review, an athlete will be defined as any individual who actively participates in individual or team sports. By focusing on this population, this review seeks to establish the relationship between an athlete's mental health and their perception of performance, offering insights into how psychological well-being interacts with professional success and personal fulfillment. The goal is to highlight the significance of mental health within the context of athletic performance and to understand how athletes cope with the psychological pressures unique to their careers.

To achieve this, it is essential to begin by defining anxiety and examining its impact on the general population. This examination will provide necessary foundation in order to understand the unique challenges faced by athletes. Anxiety, though often regarded as a natural response to stress, can evolve into a debilitating condition when it

becomes persistent and overwhelming. Athletes, by virtue of their profession, may experience heightened anxiety due to external expectations, such as competition outcomes and media scrutiny, as well as internal pressures related to self-performance and body image. Contrary to popular belief, athletes are not immune to the pressures and vulnerabilities experienced by the ordinary person. In fact, the heightened expectations, scrutiny, and performance demands associated with their careers often amplify these struggles.

Mental health challenges, one of them being anxiety, have been an enduring issue throughout human history. In recent years, mental health awareness has gained significant momentum, particularly within professional sports. This increased visibility has led to important strides in understanding the root causes of athletes' struggles, including generalized anxiety disorder and competitive anxiety. However, while awareness campaigns have shed light on the mental health challenges faced by athletes, they alone are insufficient to address the complex and diverse needs of this population. The mental well-being of athletes, particularly those at elite levels, requires more than just public recognition; it demands tailored support systems, interventions, and coping strategies designed to address the unique pressures they encounter.

This review deems the existing body of research on anxiety in athletes as insufficient, since it fails to comprehensively explore how anxiety impacts athletes across different sporting contexts. As previously mentioned, anxiety establishes itself differently across individual and team sports. More in-depth studies are needed to understand the unique ways in which anxiety can influence performance and well-being in athletes,

depending on the nature of the sport they participate in. While some sports may place greater emphasis on individual performance, others, such as team-based sports, introduce additional variables such as group dynamics, social expectations, and team cohesion that can further complicate the experience of anxiety. These differences warrant a more detailed examination of how sport type influences the manifestation and management of anxiety in athletes.

Additionally, current research often overlooks the importance of gender differences, which could significantly affect the manifestation and management of anxiety. Men and women may experience and express anxiety differently due to a combination of biological, social, and cultural factors. For example, women in sports may face unique pressures related to body image and societal expectations of femininity, while men may experience heightened anxiety related to maintaining physical toughness and masculinity. Moreover, women's anxiety may be more likely to manifest through emotional and relational expressions, while men's anxiety may tend to appear as somatic or performance-related distress. Therefore, it is crucial to conduct research that not only compares anxiety levels between individual and team sports but also examines how gender influences the experience and expression of anxiety in athletes. This review seeks to address these gaps by providing a comparative analysis of anxiety across individual and team sports while exploring the role of gender in shaping how anxiety manifests and impacts athletes' performance and mental health. By better understanding gender-specific anxiety experiences, more effective and tailored coping strategies can be developed.

Lastly, researchers continue to closely examine the effectiveness of current treatments and coping strategies available to athletes (Purcell et al., 2019). Although efforts have been made to manage anxiety within this group, questions remain about the adequacy of existing interventions in mitigating the psychological burden these individuals face. While techniques such as mindfulness, cognitive-behavioral therapy, and relaxation exercises are widely used, their effectiveness is still subject to debate. Some athletes may respond well to cognitive-behavioral approaches, while others may find these strategies insufficient in addressing the root causes of their anxiety. Additionally, the cultural stigma surrounding mental health in sports may deter athletes from seeking help or fully engaging in available treatments. As such, this review will explore both the prevalence of anxiety among athletes and the efficacy of the coping strategies currently employed to address this pervasive mental health challenge. By doing so, it aims to contribute to a more comprehensive understanding of the mental health needs of athletes and the steps required to support their well-being effectively.

CHAPTER ONE

WHAT IS ANXIETY:

GENERAL ANXIETY DISORDER?

Generalized anxiety, a prevalent manifestation of mental distress, is characterized by a persistent state of apprehension, tension, or uneasiness that arises from the anticipation of danger—whether real or perceived, internal or external (Munir & Takov, 2022). Often described as the psychological equivalent of physical pain, anxiety reflects

the mind's struggle to reconcile conflicting emotions, creating a pervasive sense of discomfort and vulnerability (Mishra & Varma, 2023).

While many individuals can navigate temporary feelings of sadness or stress, those suffering from generalized anxiety disorder (GAD) face a much more profound and persistent challenge. Individuals with this condition often find it exceedingly difficult to regulate their stress, leading to significant disruptions in daily life. The overwhelming fear of uncertainty becomes a central theme of their mental state, making even routine tasks feel insurmountable. This condition is not fleeting—it often persists over months or even years, leading to severe psychological and functional impairments.

In the United States, the lifetime prevalence of GAD, as defined by the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV), is approximately 5%, with a current prevalence ranging from 2% to 3% (Mishra & Varma, 2023). This statistic reveals that millions of individuals are affected by this debilitating disorder. What is particularly concerning, however, is that despite these significant numbers, many individuals do not seek medical attention specifically for anxiety. Research indicates that individuals often delay seeking professional help until the condition has become chronic or manifests with vague, non-specific symptoms (Moon & Woo, 2025). This delay in seeking care can have dire consequences. A late diagnosis of GAD significantly increases the risk of school refusal, substance abuse, and a diminished quality of life.

On the other hand, individuals who seek medical attention for GAD often report significant cognitive impairments, such as slower processing speeds, difficulties with attention and focus, and impaired inhibitory control. While these individuals may be

among the more proactive in seeking help for their condition, there is an opportunity to take a more preventative approach by identifying the factors that contribute to the development of anxiety disorders and working to address them before they escalate. Given this, it is crucial to thoroughly examine these contributing factors. Research has identified several key elements that appear to be driving the rising prevalence of anxiety disorders, including increased social media use, poor sleep hygiene, genetic predispositions, and environmental stressors (Mishra & Varma, 2023).

Additionally, recent pathophysiological research has shed light on the complex nature of GAD, revealing that it typically involves an interplay between genetics and brain structure. Specifically, a connection has been made between GAD and alterations in the amygdala, a region of the brain responsible for processing emotions such as fear and distress (Mishra & Varma, 2023). These findings suggest that changes in the amygdala's function could play a pivotal role in the manifestation of anxiety. The etiology of GAD is further complicated by factors such as neurotransmitter imbalances and genetic predispositions, underscoring the complexity of the disorder and the need for a multifaceted approach to both prevention and treatment.

Moreover, another significant challenge when attempting to combat GAD is how an individual or even a physician should be distinguishing between normal anxiety—a universal and often adaptive emotion—and anxiety that crosses the threshold into a disorder. Although anxiety more often than not is thought to be a negative feeling, when it is experienced within limits it serves an essential purpose by alerting individuals to potential dangers or challenges, enabling them to respond appropriately. However, when

anxiety becomes persistent, excessive, and disproportionate to the situation, it can evolve into a debilitating condition such as GAD.

GENERALIZED ANXIETY DISORDER IN ATHLETES

Distinguishing between normal and anxiety and GAD is particularly critical when considering populations like athletes, for whom anxiety can play a dual role. On the one hand, competitive anxiety can enhance performance by fostering focus and motivation, particularly in high-stakes environments. On the other hand, excessive anxiety can undermine performance, impair mental health, and lead to long-term consequences if left unaddressed.

An example of the paradoxical relationship between sports and anxiety can be observed in Germany's student-athlete school system (Brand et al., 2013). In this system, elite student-athletes—selected by their federal state or national sport association for their exceptional talent—attend specialized schools that integrate rigorous academic and athletic training into a single curriculum. These elite student-athletes faced a dual burden: the typical academic pressure most students face and the demands of high-performance athletic training. In this study, this combination of stressors showed to increase anxiety levels within this population. Furthermore, the authors found that a comparison of stress levels between regular students and elite student-athletes revealed that the latter experience significantly higher stress levels. This heightened stress primarily stems from the challenge of balancing academic responsibilities with rigorous physical training.

Moreover, an illustrative example of the difficulty in recognizing and addressing anxiety within this context can be seen through the lens of athletes themselves. Until

recently, many athletes have been notably reluctant to disclose their mental health struggles or disorders to the public, fearing that such admissions would be perceived as a sign of weakness and an undesirable trait in their highly competitive and scrutinized field (Rice et al., 2016). This reluctance is deeply rooted in the culture of professional sports, which often prioritizes mental toughness and resilience as hallmarks of success. This cultural stigma can be particularly problematic, as it may prevent individuals from seeking help, which, as previously mentioned, can lead to severe consequences if anxiety is left undiagnosed and untreated. Only after a proper diagnosis can athletes begin to seek effective coping strategies, allowing them to lead a healthier life while managing their anxiety.

Adding to this hesitation is the understanding that an athlete's public image plays a significant role in securing endorsement deals, which are a critical source of financial revenue. In an industry where marketability can often be just as important—if not more so—than athletic performance, athletes are highly aware of how their public personas can impact their earning potential. Many athletes perceive mental health struggles as a potential threat to this marketability, fearing that public acknowledgment of such issues could tarnish their reputation, alienate fans, or jeopardize valuable sponsorship opportunities. In many cases, athletes worry that endorsers, sponsors, or even fans might view them as less reliable or capable if they admit to experiencing mental health challenges, particularly anxiety.

For these reasons, understanding and identifying the symptoms of GAD within the athletic population is of paramount importance. Without this understanding, these

issues may remain unacknowledged and untreated, perpetuating the stigma surrounding mental health in sports. The reluctance of athletes to seek help underscores the need for targeted interventions and supportive environments that encourage openness and reduce the fear of judgment.

Efforts to normalize discussions around mental health in sports are essential to breaking down these barriers. By fostering a greater awareness of the distinction between normal anxiety and anxiety disorders, stakeholders in the sports industry—including coaches, managers, and mental health professionals—can play a pivotal role in creating an atmosphere where athletes feel empowered to prioritize their well-being. This is particularly crucial, as addressing anxiety early and effectively can significantly improve both mental health outcomes and athletic performance, even for those initially reluctant to seek help.

CHAPTER TWO

COMPETITIVE ANXIETY IN SPORTS

Over the past two decades, there has been a significant increase in research focused on understanding competitive anxiety (CA), largely within the specialized field of sport psychology. While GAD is prevalent in sports, CA tends to affect athletes more intensely due to the constant pressure and demands of competition. This area of study has concentrated on examining the emotional responses of athletes to various stressors, with the aim of identifying and addressing the unique challenges associated with competitive settings. CA is widely regarded as a situation-specific, multidimensional construct that encompasses both cognitive and somatic components (Mojtahedi et al., 2023).

Researchers have identified three key dimensions: cognitive anxiety, somatic anxiety, and self-confidence (Mojtahedi et al., 2023). Each dimension contributes uniquely to the overall experience of CA, which can affect athletic performance. The importance of understanding how impactful CA can be on athletic performance comes from recent research demonstrating that it is possible to predict, with 62-79% accuracy, winners in sporting events. Typically, winners are associated with having low levels of somatic and cognitive anxiety, and high self-confidence (Chapman et al., 1997).

Cognitive anxiety is characterized by worry and negative expectations about performance (Woodman & Hardy, 2003). In the multidimensional anxiety theory cognitive anxiety is thought to have a negative linear relationship when associated with performance (Mojtahedi et al., 2023). This hypothesis was developed based upon theories of attention (Woodman & Hardy, 2003). These theories suggest that cognitive resources are being taken up by reoccurring thoughts of worry and therefore these resources are not available to use for tasks that may require our cognitive attention.

Researchers conducted a meta-analysis of 48 studies and found that a weak negative correlation exists between cognitive anxiety and performance ($r = -0.10$, $p < 0.05$). This suggests that heightened cognitive anxiety may impair an athlete's ability to perform optimally. Although a weak negative correlation, it is still important to note that cognitive anxiety, an ingredient of competitive anxiety, plays an adverse role in performance of an athlete. Additionally, the study also highlighted that this effect is more pronounced in male athletes ($r = -0.22$) than in female athletes ($r = -0.03$), indicating that

gender may play a role in how cognitive anxiety influences performance outcomes. This factor of gender will be further examined in a later section.

Furthermore, athletes competing at higher levels experienced a stronger negative effect of cognitive anxiety ($r = -0.27$), suggesting that the pressures associated with elite competition may exacerbate performance-related worries (Woodman & Hardy, 2003). This coincides with previous research that was discussed in an earlier section, where the pressure that an elite athlete may feel due to their status of “elite” can contribute and develop into anxiety. Therefore, both findings emphasize the need for targeted psychological interventions to help athletes regulate cognitive anxiety, particularly those at elite levels who identify as males.

Somatic anxiety refers to the physical symptoms associated with anxiety, such as difficulty breathing, palpitations, and excessive sweating. These physiological responses influence how an individual reacts to stressors and, ultimately, how their performance is affected. While excessive somatic anxiety can impair performance by disrupting motor control and coordination, moderate levels may enhance performance by increasing physiological readiness. This concept aligns with the inverted-U hypothesis, which suggests that a moderate level of arousal—including somatic symptoms—can be beneficial, whereas excessive arousal may hinder performance (Woodman & Hardy, 2003). Mojtahedi et al. (2023) discuss how athletes may develop conditioned somatic responses to pre-competition events, such as locker-room preparations, stepping onto the field, or facing a crowd. These triggers can heighten anxiety, causing athletes to worry in

response to their physiological sensations and therefore, causing an increase in somatic anxiety.

Moreover, the impact of somatic anxiety on performance may depend on an athlete's cognitive appraisal of their physiological symptoms. Research suggests that athletes who interpret their somatic anxiety as facilitative rather than debilitating tend to perform better under pressure (Woodman & Hardy, 2003). This interpretation aligns with the catastrophe theory, which posits that when cognitive anxiety is high, excessive somatic anxiety can cause a sudden decline in performance.

However, if cognitive anxiety is managed effectively, athletes can harness their physiological arousal to enhance focus and motivation (Hardy, 1990). This aligns with an earlier point in this review, suggesting that while anxiety is often seen in a negative light, it has the potential to be beneficial when properly managed. Not only is effective management important but so is how the stimulus is perceived. The findings discussed earlier in this section highlight that an athlete's perspective plays a pivotal role in determining whether the physiological responses caused by somatic anxiety will have a positive or negative impact on performance. How an athlete interprets and responds to these bodily sensations can ultimately influence whether they use anxiety to their advantage or let it hinder their performance. Therefore, psychological interventions that help athletes reframe their perceptions of somatic anxiety could play a crucial role in optimizing performance in high-pressure situations.

Next, we will examine self-confidence to fully grasp CA. Self-confidence has been identified as a crucial psychological factor in athletic performance, with Woodman

and Hardy's (2003) meta-analysis demonstrating a moderate positive correlation between self-confidence and performance ($r = 0.24$, $p < 0.001$). Their findings suggest that athletes with higher levels of self-confidence tend to perform better, as confidence can enhance focus, reduce performance-related anxiety, and improve resilience under pressure. Notably, the study found that the impact of self-confidence was stronger in male athletes ($r = 0.29$) compared to female athletes ($r = 0.04$), indicating potential differences in how confidence influences performance across genders. Yet again just as we observed in cognitive anxiety, gender seems to play a contributing factor on how these ingredients of CA affect different subsets of athletes. Additionally, elite athletes experienced a greater positive effect of self-confidence ($r = 0.33$), highlighting the importance of mental preparation at higher levels of competition (Woodman & Hardy, 2003).

Furthermore, researchers have noted an inverse relationship between cognitive and somatic anxiety and self-confidence, particularly in relation to the timing of competition (Thomas et al., 2004). Thomas et al. (2004) examined this relationship by analyzing temporal patterns of symptom intensity, direction, and frequency over a seven-day competition phase while considering skill classification (elite vs. non-elite). Their findings supported the earlier research of Woodman and Hardy (2003), indicating that elite athletes were more facilitative in their interpretation of cognitive and somatic symptoms in the days leading up to competition, ultimately leading to a more positive performance outcome.

Moreover, the study reinforced the inverse relationship between cognitive and somatic anxiety and self-confidence. Specifically, when competition was seven days away, cognitive and somatic anxiety levels were high, while self-confidence was low. However, as the competition approached, particularly within the 48-hour mark, elite athletes exhibited a notable decrease in cognitive and somatic anxiety alongside a corresponding increase in self-confidence.

Having addressed the three components of CA, we can now review how it manifests in sports. The psychological and physiological dynamics of CA are particularly pronounced in high-stakes environments, such as combat sports. In these physically demanding competitions, where athletes face direct confrontation involving striking, joint manipulation, and other intense physical actions, the fear of injury adds an extra layer of anxiety. This fear is not limited to physical harm; it extends to emotional and psychological stress from the high-pressure environment. Jensen et al. (2013) reported that mixed martial arts (MMA) athletes' performance declined when they were unable to manage their anxiety and fear before a fight. This underscores the importance of understanding CA for achieving positive outcomes in MMA. The detrimental effects of CA can manifest in various ways. Regarding somatic anxiety, it has been linked to impaired cognitive-motor performance and increased cortisol release, a stress hormone associated with reduced physical performance and slower recovery (Lautenbach et al., 2014; Mishica et al., 2021).

Additionally, the impact of cognitive anxiety on performance can be explained through the reflective-impulsive model (Rowland & van Lankveld, 2019; Strack &

Deutsch, 2004). This model suggests that performance relies on two systems: an intuitive system shaped by accumulated experience and a reflective system dependent on working memory capacity (Evans, 2003). While physical actions are largely intuitive, extreme anxiety can deplete working memory, causing automatic skills to become consciously regulated and disrupted (Reeves, Tenenbaum, & Lidor, 2007). Consequently, anxious athletes may overanalyze their performance, impairing their decision-making and effectiveness in competition. A similar interplay between anxiety and high-pressure scenarios can be seen in swimming competitions, which, like combat sports, involve intense individual responsibility in competitive environments. Competitors frequently report intrusive thoughts about failure and heightened physical responses, such as muscle tension and trembling, both of which can negatively affect their ability to perform under pressure (Burton, 1988).

Amid these challenges, the third dimension of CA, self-confidence, plays a crucial role in mitigating its negative effects. Athletes with high self-confidence are more likely to view competitive stress as an opportunity for growth rather than a threat to their performance. This shift in perspective enables them to remain focused, composed, and resilient under pressure, allowing them to navigate high-stress situations with greater ease. Self-confidence acts as a buffer against the overwhelming feelings of anxiety, providing athletes with the mental fortitude to persevere despite external pressures. When athletes believe in their abilities, they are more likely to take risks, push through discomfort, and harness the energy generated by anxiety to fuel their motivation and drive.

This is of particular importance when considering the earlier discussion on the role of perspective in managing cognitive anxiety. If cognitive anxiety levels are high, somatic anxiety—which refers to the physical manifestations of anxiety such as elevated heart rate, muscle tension, and shallow breathing—may remain low. This occurs when athletes view the physiological symptoms of anxiety not as a sign of impending failure, but as a natural and energizing response to competition. By reframing their perception of anxiety, athletes can prevent the typical physiological symptoms of somatic anxiety from interfering with their performance. Instead, they can use these sensations as a source of motivation, allowing them to stay focused and perform at their best. In this way, a confident mindset helps athletes turn anxiety into a powerful tool for success, rather than something that undermines their potential.

An example of a confident mindset can be observed in soccer penalty shootouts, players who engage in confidence-building practices, such as visualization and positive self-talk, report greater success rates and reduced anxiety levels (Shi et al. 2024). Similarly, combat sports athletes who are reported to be mentally resilient athletes experience lower levels of cognitive and somatic anxiety and higher self-confidence (Mojtahedi et al., 2023).

In addition to confidence-building, mindfulness training offers another powerful tool for managing CA in both combat and contact sports. By teaching athletes to remain present-focused, mindfulness reduces the influence of negative thoughts and physiological arousal associated with anxiety (Gould, Greenleaf, & Krane, 2002). In soccer, mindfulness techniques help players maintain attentional control during penalty

shootouts, blocking out distractions and enhancing focus on their task. In combat sports, mindfulness fosters mental clarity and composure, enabling athletes to perform effectively despite the risks involved. The integration of these strategies into regular training routines highlights the growing recognition of mental resilience as a vital component of athletic success.

Due to the multidimensional nature of CA and its impact on performance, there is a growing call for sports psychologists and mental health professionals to be integrated into training environments. These experts play a vital role in helping athletes develop coping mechanisms, such as relaxation training, cognitive restructuring, and imagery exercises, to manage the symptoms of CA. Equally important is fostering a supportive culture within sports that acknowledges mental health challenges without stigma. By addressing the psychological needs of athletes alongside their physical training, we can create a more holistic approach to athletic success and well-being.

CHAPTER THREE

COMPETITIVE ANXIETY ACROSS GENDER & AGE

COMPETITIVE ANXIETY ACROSS GENDER

Now that we have defined CA, we must examine a final component that may influence how interventions and coping strategies are tailored to combat this phenomenon. Previous research consistently demonstrates that female athletes report higher levels of CA than male counterparts. For example, Correia and Rosado (2019) showed that female athletes exhibited significantly higher levels of general sports anxiety than male athletes. This finding suggests that, indeed, gender plays a pivotal role in how

athletes perceive and experience competitive anxiety. Moreover, this finding supports notions that indicate that biological, physiological, and social factors contribute to differences in anxiety levels between genders.

The manifestation of competitive anxiety varies between genders, encompassing both cognitive and somatic symptoms, which we know to be components of CA. Kristjansdottir et al. (2018) reported that male athletes were prone to concentration disruptions. Meanwhile, female athletes experienced higher levels of competitive anxiety. This difference between female and male athletes may result from the fact that male athletes deal with challenges relating to maintaining concentration during a competition. Furthermore, these gender differences in anxiety responses may result from distinct socialization patterns, as well as variations in the assessment of precompetitive anxiety levels and coping mechanisms between males and females.

Raglin and Morris (1994) highlight an example of the failure to accurately assess pre-competition anxiety and its impact on performance in their research. They found that predicted pre-competition anxiety was significantly correlated with actual anxiety levels; however, the accuracy of these predictions varied by gender. Specifically, female athletes were more likely to misjudge their pre-competition anxiety compared to the actual anxiety they experienced during the competition. When these findings are considered alongside existing research on the role of cognitive anxiety and self-confidence in competitive anxiety, it becomes evident that athletes must avoid underestimating the anxiety they may experience. Failing to do so can result in a decline in performance, as athletes become overwhelmed by the discrepancy between their expectations and reality.

This mismatch can erode their self-confidence, ultimately diminishing their overall performance potential. Importantly, this phenomenon has been observed primarily in female athletes, with no similar patterns identified in males.

Additionally, research by Ramis et al. (2015) supports these findings, demonstrating that male athletes display lower levels of anxiety compared to female athletes. The difference in anxiety levels between males and females may stem from a variety of factors that disproportionately affect women, such as societal pressures, fear of failure, and perfectionist tendencies. These factors are believed to be more prevalent among women in sports. Furthermore, female athletes may experience heightened anxiety due to the stereotypes surrounding female athleticism. Similarly, Dias et al. (2012) report comparable findings, noting that females experience higher levels of cognitive and somatic anxiety. Despite this, they also report using more emotion-focused strategies and active coping mechanisms to manage their anxiety. In contrast, while males report lower levels of anxiety, they tend to rely more on substance abuse as a coping mechanism. Dias suggests that the explanation for these sex differences is complex and multifaceted, offering two primary reasons to justify these findings.

The first reason suggested by Dias aligns with previous research, which indicates that physical skills, abilities, and the broader context of sporting achievement are often perceived as male dominated. This perception may contribute to an additional layer of anxiety for female athletes, who may feel less encouraged to reach their full potential. The second reason Dias offers refers to the "bias of response" hypothesis, which has been used to explain sex differences in anxiety across various domains of achievement and

performance evaluation. This hypothesis posits that cultural pressures to conform to gender norms discourage males from openly expressing anxiety in achievement-related areas. As a result, men often conceal or distort their anxiety levels. Essentially, this supports the idea that, due to societal stereotypes, acknowledging anxiety is more socially acceptable for women, while it is seen as an intolerable weakness for men.

To further emphasize the significance of gender differences in athletic stress, Hagan Jr. et al. (2017) highlight the practical implications for sport performance. They argue that understanding these differences is crucial, as it directly affects the strategies practitioners need to adopt to effectively address the varying needs of athletes for successful outcomes. The authors reference previous literature, which shows that while males generally exhibit no significant changes in cognitive anxiety or self-confidence during pre-competition, females tend to experience a gradual increase in somatic anxiety and a decline in self-confidence. Hagan Jr. et al. (2017) underscore the importance of considering gender when discussing CA, illustrating how these differences must be acknowledged to develop appropriate interventions.

In summary, CA is a pivotal factor to consider when examining how anxiety can affect athletes across genders. Past research has provided key differences in how male and female athletes experience CA and react to it. However, gaps still exist in the literature on effective coping strategies for managing CA based on gender. There is an evident need for gender-sensitive approaches in sports psychology. By properly addressing this need, athletes would receive the support they need to manage their CA and achieve their full athletic potential.

COMPETITIVE ANXIETY ACROSS AGE GROUPS

While the importance of gender in understanding the effects of competitive anxiety has been established, it is not the only contributing factor. Another key element to consider when examining competitive anxiety among athletes is age. Research has shown a significant negative relationship between age and cognitive anxiety (Modroño & Guillen (2011) suggesting that older athletes generally experience less anxiety than their younger counterparts. Therefore, if there is an decrease in cognitive anxiety there is also an decrease in competitive anxiety. This is because as previously mentioned cognitive anxiety is one of the three types of anxiety that contributes to competitive anxiety.

Moreover, the difference in anxiety experienced across ages is largely attributed to experience. Older athletes typically possess more experience, which plays a crucial role in both pre-competitive and competitive anxiety levels. For example, Sanchez et al. (2004) found that pre-competitive anxiety levels were lower in veteran distance runners compared to younger, less experienced runners. This can be explained by the fact that experienced runners have gone through numerous events, gaining valuable insight and confidence in the process. In contrast, newer runners lack this experience, which can lead to higher cognitive anxiety and potentially decrease performance.

However, contradictory findings from the Martínez-Gallego et al. (2022) suggest that older players may experience higher levels of pre-competitive anxiety compared to younger players. This challenges the commonly held belief that experience and age are directly linked to reduced anxiety. The study's results indicate that other factors, such as personality traits, individual coping mechanisms, or external pressures, might play a role

in shaping anxiety levels in older athletes. These findings underscore the need for further research to investigate the underlying causes of competitive anxiety and how various variables, including age and gender, interact to influence it. Understanding these nuances is crucial, as it could lead to more targeted interventions that address the specific needs of different age groups in competitive settings.

It is also crucial to consider both age and gender when studying competitive anxiety. Focusing solely on gender might lead to the assumption that competitive anxiety disproportionately affects women, as previously discussed. However, this conclusion would be inaccurate. Previous research has shown that, in fact, women tend to experience lower levels of competitive anxiety than men as they age (Martínez-Gallego et al., 2022). This also emphasizes the importance of a more nuanced approach in understanding how both age and gender interact to influence competitive anxiety.

CHAPTER FOUR

ANXIETY IN INDIVIDUAL VS. TEAM SPORTS – A COMPARATIVE ANALYSIS

Anxiety is commonly experienced among athletes; often, this experience is driven by the fear of outcomes. This fear is understood to stem from the belief that anxiety will negatively impact performance. Due to this, athletes often perceive anxiety as a barrier to success. According to Soltani, Hojiati, and Reza (2016), these perceptions can lead to a self-filling prophecy where the fear of poor performance is exacerbated by the anxiety being experienced. Anxiety, however, is not always harmful. As previously discussed, anxiety can be utilized to benefit the athlete, or it can result in a hindrance to performance

(Rathod, 2020). The key factor in determining its effect lies in the athlete's response to anxiety. In many cases, a certain level of anxiety is required in order for the athlete to achieve peak performance. Anxiety is used to enhance focus, energy, and motivation. Nevertheless, it is paramount to acknowledge that anxiety in excess can result in physical and mental fatigue, a breakdown of skills, and ultimately, a decline in performance.

A challenge that arises when attempting to understand anxiety's impact on athletes is that there is no universally known "optimal" level of anxiety. Not only does the ideal amount of anxiety vary from athlete to athlete, but it also differs across sports. Furthermore, it can shift depending on the athlete's individual psychological makeup, experience level, and the demands the sport elicits from the athlete (Rathod, 2020). In essence, what may motivate one athlete could overwhelm another. Therefore, this difference makes it quite challenging to implement a one-size-fits-all approach when attempting to manage anxiety across sports.

The levels of anxiety experienced by athletes are influenced by several contextual factors, with the most significant being whether the sport is individual or team-based. The distinction between individual and team sports creates different psychological pressures, which, in turn, shape how athletes experience anxiety and the coping strategies they employ. For instance, research by Dias et al. (2012) highlights that athletes in individual sports often report higher levels of worry and somatic anxiety compared to their counterparts in team sports. Additionally, the study reveals that athletes in individual sports tend to rely more on venting emotions, while those in team sports are more likely to use humor or engage in substance abuse as coping mechanisms.

Moreover, in individual sports such as tennis, gymnastics, swimming, or combat sports, more often than not, the performance of the athlete is entirely in their control. In individual sports, such as the ones mentioned, success or failure is solely attributed to the individual athlete, and the pressure to perform can be overwhelming to an athlete. In contrast, in team sports such as football, basketball, or soccer, there is a collective responsibility regarding the pressure of performance that is spread across all members of the team. This distribution of pressure in team sports, as previously mentioned, can sometimes alleviate the intensity of anxiety experienced by a member of the team since the responsibility for performance is shared (Rosli, Ismail, & Mohd Kassim, 2022).

It is fundamental to understand these structural differences in order to fully grasp how athletes in different sports experience and manage anxiety. Individual sports typically report higher personal accountability and low external support before and after competitions. As previously mentioned, athletes participating in these individual sports may feel that their identity and success depend on their ability to compete and win. This thinking amongst athletes in individual sports can ultimately lead them to experience a heightened level of anxiety due to the lack of a support network.

Meanwhile, athletes who participate in team-based sports benefit from the structure of team sports, which includes the sports' social network. This social network includes their teammates, coaching staff, or fans. This social network offers the athlete emotional and tactical support, unlike in individual sports, where it is usually only the participant or athletic event participants. This collective support system can buffer the

anxiety that arises before or after competition by providing reassurance and shared focus throughout the competition (Rathod, 2020).

Furthermore, the demands of the sport itself that are associated with the type of sport, can also contribute to the levels of anxiety experienced by the athlete. These demands include the skill structure of the sport, training load required by the sport, and tactical strategies that can be implemented in the sport. For example, the complexity of individual sports often involves honing a wide range of technical skills in isolation, which can amplify self-doubt and performance anxiety. In team sports, however, the reliance on coordinated strategies and teamwork allows members of the team to concentrate on their roles within a more considerable collective effort, which in turn may reduce anxiety related to personal performance.

An important factor to consider when discussing anxiety in team sports versus individual sports is gender. Previous research has shown that gender plays a significant role in CA within both types of sports. Pluhar et al. (2019) concluded, a similar claim to previous research, that athletes in individual sports were significantly more likely to report higher levels of anxiety and depression compared to their counterparts in team sports. Pluhar et al. attributed this difference to psychological pressure that individual athletes often face, such as the lack of social support and the increased sense of personal responsibility for their performance. The study suggested that the communal environment and support systems inherent in team sports might offer protective benefits, helping athletes to manage stress and anxiety more effectively than those in individual sports. Their finding is consistent with the previous literature mentioned in this review that

highlights how the social dynamics of team sports can act as a buffer against mental health challenges, providing athletes with a sense of camaraderie and shared responsibility.

However, Pluhar et al. (2019) offered an insightful perspective by exploring how gender might influence the relationship between sport type and mental health outcomes. Their study, in particular, found that female athletes, regardless of whether they participated in individual or team sports, were more likely to report higher levels of anxiety and depression compared to their male counterparts. As previously noted, gender difference could be attributed to various socio-cultural factors, such as societal expectations and the pressures placed on women to conform to certain standards in both sport and appearance. The authors suggested that the support systems in team sports might be particularly beneficial for female athletes, as they may provide an additional layer of social support that helps mitigate the mental health risks often associated with gendered expectations in sport. Overall, the study highlighted that while team sports may offer some protection against anxiety, the role of gender should be considered when addressing mental health concerns in athletes.

In conclusion, the anxiety experienced by athletes is a multifaceted phenomenon influenced by many factors. These factors can include the type of sport the athlete is participating in, the structure of the competition, gender, and how the individual psychologically responds to anxiety. While a moderate level of anxiety can enhance performance by increasing focus and drive, excessive anxiety can undermine an athlete's ability to perform at their peak. The distinction between individual and team sports plays

a critical role in understanding the intensity of the anxiety and the stem of it. In individual sports, there is a significant amount of pressure on the sole athlete rather than on a group of athletes composing a team that share the pressure to perform and succeed.

Understanding individual and team sports dynamics is paramount to further develop effective coping strategies to combat anxiety and optimize performance across different sports.

CHAPTER FIVE

ASSESSING COPING STRATEGIES AND TREATMENTS FOR MANAGING ANXIETY

Although there has been immense progress towards the understanding of GAD and its symptoms, most of the research associated with assessing the efficacy of treatment remains relatively small (Mennin et al., 2004). Below we will review: relaxation training, cognitive restructuring, and multicomponent cognitive-behavioral approaches and their ability to treat GAD effectively.

Relaxation training is a treatment for GAD since it helps patients cope with internal anxiety cues, especially in the absence of clear external triggers. Several studies have demonstrated the efficacy of relaxation training for GAD (Mennin et al., 2004). Most of these studies follow the relaxation training of progressive muscles which was established by Bernstein and Borkovec's in 1973. The progressive muscle relaxation training educates patients on how to distinguish between tension and relaxation, use recall relaxation, and how to implement cue-controlled relaxation by associating words like "relax" with a relaxed state. This relaxation training begins with the therapist

presenting the patient a rationale for how this relaxation training will be used and why it should work whenever they begin to experience anxiety (Hayes-Skelton et al., 2013). Additionally, the therapist also assures the patient that the coping skill can be rapidly applied to any situation in efforts to weaken the anxious response to their situation. The goal of this technique is to be able to relax in a short period of time and minimize their symptoms of anxiety. Patients are encouraged to apply this technique at the earliest signs of anxiety, since early detection of anxiety is crucial for mitigating its effects (Mennin et al., 2004).

Furthermore, patients trained in this technique of applied relaxation have demonstrated a higher response rate and better end-state functioning than individuals who do not apply this technique (Borkovec & Costello, 1993). In Borkovec & Costello (1993), the researchers reported a 72% patient treatment response post treatment in addition to a 44% high end-state functioning post-treatment. Similarly, Barlow et al. (1992) demonstrated parallel findings of 63% of the patients were treatment responders, and 56% achieved high end-state functioning. These two studies demonstrate the benefits that are associated with relaxation training when combating GAD.

In addition to relaxation training, a patient can undergo cognitive therapy. Cognitive therapy is another frequent strategy used when treating GAD (Mennin et al., 2004). The basis of all cognitive therapy approaches when combating GAD stems from the work of Beck et al. (1985). Beck's work asserts that emotions that are negatively associated such as anxiety are a product of cognitive processing errors. Cognitive processing errors include: how patients label, interpret, and evaluate their experiences in

a biased, highly personalized, overly arbitrary or extreme manner (Beck, 1976). Beck's cognitive therapy work attempted to correct these cognitive processing errors through various methods. The goal of Beck's cognitive therapy methods was to aid patients in remolding their rigid and maladaptive ways of thinking. Restructuring these thoughts involved transforming negative thinking into a more accurate, realistic, and flexible style while also modifying underlying belief structures. Research by Butler et al. (1991) found that 32% of patients receiving cognitive therapy achieved high end-state functioning, with this figure increasing to 42% at a six-month follow-up.

Furthermore, the efficacy of cognitive therapy has also been demonstrated in many randomized control trials (Bandelow, 2013). These trials have demonstrated that cognitive therapy is somewhat superior to other psychotherapies. Furthermore, in the last few years cognitive therapy has been used to treat not only anxiety but other mental illnesses. All these findings, along with Beck's work, supports the efficacy of cognitive therapy in treating GAD.

Another treatment that will be addressed in this section is the multicomponent cognitive-behavioral treatment packages. This multicomponent cognitive behavioral treatment is usually a combination of the two treatments previously addressed, relaxation and cognitive therapy. Research has demonstrated that both treatments in combination have been more efficacious than the counter part of no treatment (Blowers et al., 1987; Barlow et al. 1992; White et al, 1992). However, this combination treatment has not demonstrated a clear advantage over psychosocial control treatments (Blowers et al.,

1987; White et al.,1992; Stanley et al., 1996). Therefore, more research is required to truly assess the benefits associated with multicomponent cognitive behavioral treatment.

Lastly, it is crucial to examine the comparative effects of psychotherapies versus pharmacotherapy on GAD symptoms. Carl et al. (2020) caution against drawing the conclusion that psychotherapy is definitively a better coping strategy than pharmacotherapy based on their findings, citing several key reasons. First, the two treatment modalities in their study had different control groups, which complicates direct comparisons. For example, all pharmacotherapy trials used a pill placebo as a comparison, while psychotherapy studies typically used a waitlist control. Although the analysis of three pill placebo-controlled psychotherapy studies found a higher effect size than waitlist-controlled studies, the authors caution that this may be a statistical anomaly, noting that larger meta-analyses of cognitive-behavioral therapy (CBT) for anxiety disorders showed large effects for waitlist conditions and small to medium effects for pill placebo comparisons (n = 144 trials) Carl et al. (2020). Given that a pill placebo represents a more stringent control condition than a waitlist, this could explain the apparent difference in effect sizes.

Additionally, psychotherapy studies demonstrated evidence of publication bias, a phenomenon that is critical to consider when assessing the true efficacy of treatments and their value in patient care. Publication bias may lead to an overrepresentation of positive outcomes in the literature, which could skew perceptions of the treatment's effectiveness. Therefore, it is important to account for these factors to make a more accurate and

balanced judgment about the relative benefits of psychotherapy versus pharmacotherapy in treating GAD.

Despite all this literature, the field of mental health—particularly concerning anxiety among specific populations such as professional athletes—requires further research to develop tailored cognitive and behavioral interventions. Athletes often face unique stressors, including the pressures of performance, public scrutiny, and balancing personal and professional obligations. These challenges may amplify their susceptibility to anxiety, making generalized approaches less effective.

Developing targeted treatments necessitates a deeper exploration of the underlying mechanisms of anxiety. Understanding how these processes interact with other cognitive and emotional factors is pivotal in designing interventions that address the specific needs of individuals struggling with GAD. For professional athletes, this could include integrating sport psychology techniques, resilience training, and performance-focused mental health strategies into their routines.

Moreover, increasing access to resources and mental health education within high-pressure environments can create a culture where seeking help is normalized and encouraged. By expanding our knowledge of GAD and its diverse manifestations, mental health professionals can develop innovative approaches that not only alleviate symptoms but also empower individuals to lead more balanced and fulfilling lives. This continued effort to refine and personalize treatment options will be instrumental in improving outcomes for all those affected by anxiety, particularly within vulnerable or high-stakes populations.

COPING WITH ANXIETY IN SPORTS

High-achievement sports present an environment associated with constant change, requiring athletes to develop effective strategies for managing these transitions. This ever-evolving landscape provides a unique setting in which anxiety can be thoroughly examined concerning sports performance (Hanin, 2010). Elite athletes must be prepared to adapt to these changes and ensure they have the necessary psychological tools to manage them effectively. This adaptation to change can be described as coping to a new environment. Researchers describe coping as an important self-regulatory process to consider when looking at how people manage the demands of a stressful situation (Verner-Filion et al., 2014). Therefore, coping with anxiety is, in essence, coping with change, as anxiety often arises from uncertainty and the perceived inability to control outcomes.

The findings in Lazarus (1999) denote how stress-induced emotional experiences involve potential gains and losses that an athlete can encounter. Furthermore, Lazarus sheds light on the dual nature that stress has across competitive sports. This dual nature is uniquely important since how athletes interpret and respond to stress, whether as a challenge or a threat, can significantly influence their performance and overall well-being (Nicholls & Polman, 2007). Given the psychological demands of elite competition, understanding and refining coping mechanisms is crucial for sustaining mental health and peak performance in high-level sports.

The transaction model of stress and coping helps illustrate how athletes appraise and respond to stressful situations that can cause an increase in anxiety. According to this

model, an athlete will encounter two appraisal stages when confronted with a stressor. In the first appraisal, the athlete evaluates whether the situation poses an immediate threat or harm to their well-being. Should the athlete make this evaluation, and it results in that there is no threat to their well-being, the second appraisal will be ensured. This second appraisal involves assessing their available resources to cope with the situation. Having these two pieces of information available to the athlete is what determines what coping strategy they will employ to deal with their increase in anxiety effectively.

Furthermore, in sports, coping strategies can be divided into two categories: problem-focused and emotion-focused. Problem-focused coping implements proactive measures to address or mitigate the anxiety caused by stressors (Nicholls et al., 2016). These measures could refine technical skills, switch up in-game strategies, or seek additional training to enhance individual performance. For example, if a swimmer struggles with turning, they may work individually with a coach to adjust their technique, which would address their performance issue and lower their stress and anxiety.

However, when addressing emotion-focused coping, there are other factors at play. Emotion-focused coping involves how, in this case, athletes regulate their emotional response to anxiety through techniques previously mentioned, such as relaxation and mindfulness (Nicholls et al., 2016). An example of this can be when a gymnast uses visualization to rehearse their routines. This not only reduces the emotional burden of the competition but may aid in reducing their pre-competitive anxiety. It is important to note that these two coping strategies are not mutually exclusive. Athletes can use both of these coping strategies in order to boost their performance and reduce their anxiety.

Moreover, managing anxiety across sports, including both individualized and team-based sports, requires strategies that effectively address the needs of each environment where an athlete competes. Cognitive-behavioral therapy (CBT) has recently become an intervention that shows much promise in addressing the needs of elite athletes when they are faced with mental health challenges, specifically anxiety (Werner et al., 2023). Increased levels of anxiety and substance use disorders have been reported in elite athletes as a result of the pressures of competition, the expectations placed on them, and the stigma in addressing mental health struggles in sports. Werner et al. emphasize that CBT can equip athletes with the proper skillset to effectively manage their anxiety by educating athletes on how to reframe their negative thoughts and, therefore, develop healthy coping strategies. In summary, CBT must be integrated into athletic programs to aid elite athletes in addressing their mental health struggles and preventing unhealthy coping mechanisms.

Furthermore, CBT can also prove to be pivotal in reducing the stigma that exists amongst the athletic community when seeking help for a mental health struggle such as anxiety (Werner et al., 2023). In today's world, athletes are often asked to display mental toughness, which essentially can deter them from acknowledging their struggles and, therefore, lead them away from seeking support. Werner et al. (2023) presents the argument that if CBT strategies were integrated within teams and coaching staffs, then it could serve to normalize what are considered to be difficult conversations for some athletes when it comes to mental health. Since CBT techniques entail cognitive restructuring, goal-setting, and mindfulness, they can all serve as an aid to athletes for

their anxiety and can also help athletic performance by providing a platform to address burnout and confidence issues.

However, it is not enough to merely focus on the different types of coping mechanisms. It is crucial to also assess their effectiveness in managing anxiety among athletes. The sources of anxiety in athletes can be from different sources, ranging from performance pressure and fear of failure to concerns about injury and social evaluation. Past research has consistently demonstrated that cognitive anxiety—characterized by negative thoughts, worry, and self-doubt—serves as a reliable indicator of how well an athlete is handling these pressures (Verner-Filion et al.,2014). As previously discussed, cognitive anxiety has been identified as a key psychological factor that reflects the effectiveness of an athlete’s coping strategies. Understanding this relationship is essential for evaluating whether coping mechanisms are truly effective in reducing anxiety and improving performance.

This is especially important in the context of sports psychology, where understanding the dynamics of anxiety and coping is critical for developing effective interventions. The ability to assess cognitive anxiety provides sports psychologists, coaches, and athletes with a tangible measure of whether coping strategies are functioning as intended. In turn, this helps in refining or adapting these strategies to improve performance and well-being. Without reliable indicators like cognitive anxiety, it becomes difficult to evaluate the success of coping mechanisms or to identify areas where additional support or adjustment might be necessary. Therefore, establishing

robust measures to assess cognitive anxiety is essential not only for diagnosing anxiety levels but also for advising athletes on the most effective coping techniques.

In summary, anxiety is a convoluted issue in sports, manifesting differently across individual and team contexts due to the unique psychological and social dynamics of each setting. While athletes in individual sports face an increase in cognitive and somatic anxiety due to their sole responsibility for outcomes, those in team sports navigate the added challenges of social pressure and group expectations. Tailored interventions, ranging from CBT and mindfulness to team-building exercises, are essential for managing these distinct forms of anxiety and enhancing overall performance.

INTEGRATING FRAMEWORKS TO COMBAT ANXIETY

De Francisco et al. (2016) address how the cognitive-affective stress model demonstrates how specific characteristics influence an emotional and physiological response to certain stressors. These qualities include an individual's cognitive perceptions of control, past experiences, and unique personality stress. Additionally, the model described by De Francisco et al. (2016) sheds light on the impactful outcomes that cognitive restructuring and relaxation techniques have on athletes, as previously discussed.

Cognitive resurfacing, for example, enables athletes to reframe negative thoughts about their performance into positive affirmations and mantras. This shift in mindset leads to reduced cognitive anxiety and enhanced self-confidence. Such changes are crucial when aiming to minimize competitive anxiety. As previously mentioned, alleviating cognitive anxiety is essential for clearing the mind, allowing the athlete to

focus on the competition—whether team-based or individual—while simultaneously boosting self-confidence. By achieving both, the athlete makes significant progress in reducing anxiety and sets themselves on the right path toward a positive performance outcome.

In sports similarly to fashion, techniques of relaxation such as breathing or progressive muscle relaxation, as discussed in Mennin et al. (2004), can aid in alleviating somatic anxiety by reducing the physiological symptoms associated with an increase in somatic anxiety. It is pivotal for an athlete to reduce their somatic anxiety as quickly as possible while competing in order to have optimal performance. Pivotal because unlike other types of anxiety, somatic anxiety directly affects an athlete's physical performance since somatic anxiety is associated to physiological symptoms.

As previously discussed, the symptoms associated with somatic anxiety have the ability to hinder an athlete's ability to perform by: distracting them, reducing their concentration, and most of all impair their decision-making process. The management of this specific type of anxiety can not only result in optimal performance as a short-term gain, but this management can prevent risk of injury which could benefit the athlete in the long term. Risk of injury can decrease since the management of the anxiety would result in the decrease of muscle tension which would ultimately reduce an athlete's potential to possibly suffer a muscle strain or a muscular injury. All these reductions in somatic anxiety and associated muscle tension, result in an increase in self-confidence. It cannot be stressed enough the importance for an athlete to have high self-confidence when combatting anxiety. By increasing their self-confidence, an athlete is more likely to trust

in their natural born abilities as well as their training. Ultimately, relaxing their bodies and reducing their somatic symptoms due to their somatic anxiety.

An example of an athlete using different technique to reduce their somatic anxiety, can be observed in the scenario where a golfer may be encountering a pivotal putt that can change the outcome's fortunes. They may use deep breathing techniques to calm the physiological symptoms and improve their performance under pressure. Another more specific example that may demonstrate how any athlete can use these techniques to reduce their somatic anxiety could be seen in soccer with regards to a specific player. The player being described is world soccer superstar Cristiano Ronaldo (CR). It can be observed with every freekick that CR attempts, CR wipes his hands on his shorts and takes two to three deep breaths before attempting his shot. And more often than not he scores given his over 900 goals in world football. This effectively demonstrates how athletes of all levels can utilize relaxation techniques to enhance their performance in any given task. It also highlights how anxiety can impact athletes, regardless of their elite status.

Unlike individual sports, coping strategies in team sports must address the added complexities of group dynamics and shared emotional experiences. These strategies require a different approach to managing anxiety, as the interactions among teammates can significantly influence each athlete's emotional state. Players often experience the highs and lows of competition together, which means that an effective coping strategy must not only address individual anxiety but also foster an environment of open communication and mutual support. As Brykman and King (2020) suggest, a coping

strategy can only be considered effective for a team if it alleviates anxiety across all members. It cannot benefit some players while neglecting others, as this imbalance will ultimately hurt the team's overall performance. When team performance declines, tensions rise, and the collective anxiety within the group increases, undermining the effectiveness of the coping strategy as a whole.

Another factor that must be considered is the different personalities and coping styles within a team. This can create challenges in developing a one-size-fits-all coping strategy. The choice of coping strategies that an athlete makes is mainly a reflection of their behavioral response during an exposure to a significant and relevant stress (Ivaskevych et al., 2020). Therefore, coping strategies can also be defined as behavior and beliefs that are used by an individual in efforts to overcome difficult situations that are exceeding the available resources. Every athlete is entitled to have different triggers of anxiety and different responses to it. In essence, not all team members may share the same core values and culture resulting in different choices of coping strategies leading to different outcomes even within a team setting.

A clear example where this can come into play is how each individual receives and provides motivation and encouragement. Some may constantly want motivation and encouragement from a teammate or team member; meanwhile, other athletes may prefer to approach this more individually. Perhaps the more solitary approach for some is more beneficial since the interaction of being motivated by others can increase anxiety (Brykman & King, 2020). This example clearly demonstrates how coping strategies cannot be applied as a one-size-fits-all even if it's within a team that share the common

goal of competing at a high level hoping to achieve positive results. It is paramount that this be understood in order to best implement the most effective coping strategy with regards to a anxiety within a team, all the while keeping in mind each member of the team and their needs.

In summary, coping strategies for anxiety in sports are crucial for success both at the individualistic level and at the team-based level. Whether it is a problem-focused, emotion-focused, or dual model strategy working together to reduce the amount of stress and anxiety experienced by an athlete, these strategies can be accompanied by cognitive restructuring or relaxation techniques, both of which enable an athlete to lower cognitive and somatic anxiety, which are components of CA. However, we must still note the distinction that in team-based sports, we must widen the effect of coping strategies as they should not only benefit the individual athlete but the team as a whole. Therefore, collective coping mechanisms are needed for successful implementation. These include social support, resilience, and cohesion exercises. All of these factors act to enhance individual and team performance.

CHAPTER SIX

DISCUSSION

Having examined the existing literature on competitive anxiety in sports, it remains evident that further research is necessary to effectively address the needs of athletes. While there is a relatively solid understanding of how GAD affects the broader human population, we still lack clarity on which coping mechanisms are most effective in alleviating anxiety, particularly within the context of competitive sports.

Over the years, researchers have made significant strides in understanding the physical ailments athletes may encounter throughout their careers. This work has proven instrumental in developing preventative measures to reduce the occurrence of physical injuries. However, far less attention has been given to the mental conditions athletes face, specifically anxiety, and its impact on performance. As a result, there is little information on the effectiveness of current strategies for managing or preventing anxiety in athletes. This gap is of critical concern, as mental health issues, especially anxiety, are as likely to affect an athlete's performance as any physical injury.

The impact of anxiety on athletic performance is profound, often leading to decreased concentration, disrupted cognitive function, and physical symptoms such as muscle tension or fatigue, which can ultimately impair performance. Although the literature review provides an in-depth exploration of various coping mechanisms for treating GAD, it falls short of determining which approach is the most beneficial. One of the central challenges highlighted in the literature is that mental health professionals cannot adopt a "one-size-fits-all" approach to coping strategies, as individuals respond to anxiety in highly personalized ways. Various factors influence how individuals experience anxiety and select the coping strategies they use to manage its detrimental effects. This variability makes it crucial to understand the multidimensional nature of anxiety and its interactions with factors such as gender, age, and sport type.

Several key factors discussed in this review include gender, age, and the type of sport an individual participates in. These factors cannot be examined in isolation when attempting to understand how anxiety affects athletes. A more nuanced approach is

needed, one that examines how gender and age interact with each other and simultaneously influence competitive anxiety levels across different sports. This literature review emphasizes the importance of understanding these two variables together, as they jointly impact how athletes experience and cope with anxiety. Gender differences, for instance, may influence how athletes express anxiety, how they interpret competitive pressure, and how they seek support. Likewise, age can play a role in determining an athlete's experience with anxiety, with younger athletes possibly facing different stressors compared to older, more experienced competitors.

However, conflicting research exists on the specific gender and age groups that experience more intense anxiety while competing. Some studies suggest that female athletes tend to report higher levels of anxiety, particularly in socially evaluative situations, while other research suggests that male athletes may be more likely to internalize their anxiety, leading to more severe physical symptoms. Likewise, there is disagreement regarding which age group experiences more intense anxiety—some research suggests that younger athletes, due to a lack of coping skills, may struggle more with anxiety, while other studies show that older athletes, who are under more intense pressure to perform, may experience anxiety differently. This inconsistency in findings complicates the development of coping strategies aimed at specific genders or age groups, and it poses a barrier to creating interventions that truly meet the diverse needs of athletes. Therefore, this review calls for a comprehensive, integrated study that focuses on how both gender and age simultaneously influence competitive anxiety in a wide range of sports.

Additionally, it is crucial to examine the type of sport in which an athlete participates, as this plays a pivotal role in shaping their anxiety experience. Whether the sport is individual or team-based can significantly affect how athletes manage anxiety and the coping mechanisms that are most effective for them. In individual sports, the burden of responsibility lies squarely on the athlete's shoulders, which can heighten feelings of anxiety. In contrast, in team sports, athletes must navigate the dynamics of group performance, which can either provide support or introduce additional stressors. The specific demands of the sport—such as the level of public exposure, performance pressure, and competition intensity—can further influence how anxiety manifests. For example, athletes in combat sports may experience anxiety due to the high levels of personal accountability, physical risk, and direct competition. In contrast, athletes in team sports may experience anxiety related to team cohesion, communication issues, or the social pressure of group performance.

The demand for high performance in sports can exacerbate GAD symptoms, particularly for elite athletes who are required to navigate multiple stressors simultaneously. These athletes face the dual challenge of managing the physical demands of their sport while also coping with the mental and emotional pressure to perform at the highest levels. The literature suggests that different types of anxiety—such as cognitive anxiety (worrying about performance), somatic anxiety (physical tension or symptoms of stress), and self-confidence (perceptions of one's ability)—can interact and influence athletic performance in distinct ways depending on the sport. Elite athletes, in particular, may experience heightened anxiety as a result of their exposure to intense public scrutiny,

sponsorship demands, and the pressure to win. Consequently, understanding how these varying forms of anxiety manifest in different sports is essential for developing tailored strategies that address the unique challenges athletes face.

This review also emphasizes the importance of considering the effectiveness of different coping strategies for individual versus team sports. Athletes in individual sports may benefit more from self-regulation techniques such as visualization, mindfulness, and cognitive restructuring, which can help them manage their anxiety and maintain focus during competition. These techniques allow individual athletes to directly control their responses to stress and anxiety, thus improving their mental resilience. On the other hand, athletes in team sports might find collective strategies—such as goal-setting, team rituals, and open communication—more impactful. These collective strategies not only help athletes manage anxiety but also promote a sense of belonging and shared responsibility within the team, which can alleviate some of the pressure they feel.

In conclusion, a deeper understanding of how gender, age, and sport type interact to influence anxiety in athletes will provide valuable insights for creating more effective, individualized interventions. It is essential that future research investigates these factors in combination to develop comprehensive strategies that address the specific challenges athletes face. Integrating these insights into training and support systems will allow athletes to better navigate the pressures of competition while maintaining their overall well-being. Ultimately, a broader understanding of anxiety's variations will not only pave the way for targeted interventions that enhance performance and foster resilience but will also contribute to a cultural shift in sports. This shift should prioritize mental well-being

as much as physical health, ensuring that athletes are supported holistically throughout their careers. By addressing both the mental and physical demands of sports, we can help athletes achieve their highest potential while also promoting long-term well-being.

BIBLIOGRAPHY

- Bandelow, B., Boerner J, R., Kasper, S., Linden, M., Wittchen, H. U., & Möller, H. J. (2013). The diagnosis and treatment of generalized anxiety disorder. *Deutsches Arzteblatt international*, *110*(17), 300–310.
<https://doi.org/10.3238/arztebl.2013.0300>
- Barlow, D. H., Rapee, R. M., & Brown, T. A. (1992). Behavioral treatment of generalized anxiety disorder. *Behavior Therapy*, *23*(4), 551–570.
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. New American Library.
- Beck, A. T., Emery, G., & Greenberg, R. L. (1985). *Anxiety disorders and phobias: A cognitive perspective*. Basic Books.
- Bernstein, D. A., & Borkovec, T. D. (1973). *Progressive relaxation training*. Research Press.
- Blowers, C., Cobb, J., & Mathews, A. (1987). Generalized anxiety: A controlled treatment study. *Behaviour Research and Therapy*, *25*(6), 493–502.
- Borkovec, T. D., & Costello, E. (1993). Efficacy of applied relaxation and cognitive-behavioral therapy in the treatment of generalized anxiety disorder. *Journal of Consulting and Clinical Psychology*, *61*(4), 611–619.
- Brand, R., Wolff, W., & Hoyer, J. (2013). Psychological symptoms and chronic mood in representative samples of elite student-athletes, deselected student-athletes, and comparison students. *School Mental Health*, *5*(2), 166–174.
<https://doi.org/10.1007/s12310-012-9095-8>

- Brykman, K. M., & King, D. D. (2021). A Resource Model of Team Resilience Capacity and Learning. *Group & organization management, 46*(4), 737–772.
<https://doi.org/10.1177/10596011211018008>
- Butler, G., Fennell, M., Robson, P., & Gelder, M. (1991). Comparison of behavior therapy and cognitive behavior therapy in the treatment of generalized anxiety disorder. *Journal of Consulting and Clinical Psychology, 59*(2), 167–175.
- Burton, D. (1988). Do anxious swimmers swim slower? Reexamining the elusive anxiety-performance relationship. *Journal of sport and exercise psychology, 10*(1), 45-61.
- Carl, E., Witcraft, S. M., Kauffman, B. Y., Gillespie, E. M., Becker, E. S., Cuijpers, P., Van Ameringen, M., Smits, J. A. J., & Powers, M. B. (2020). Psychological and pharmacological treatments for generalized anxiety disorder (GAD): a meta-analysis of randomized controlled trials. *Cognitive behaviour therapy, 49*(1), 1–21. <https://doi.org/10.1080/16506073.2018.1560358>
- Chapman, C., Lane, A. M., Brierley, J. H., & Terry, P. C. (1997). Anxiety, self-confidence, and performance in Tae Kwon-Do. *Perceptual and Motor Skills, 85*(3_suppl), 1275–1278. <https://doi.org/10.2466/pms.1997.85.3f.1275>
- Cerin, Ester, et al. "Temporal Patterning of Competitive Emotions: A Critical Review." *Journal of Sports Sciences*, vol. 18, no. 8, 2000, pp. 605-626.
- Correia, M., & Rosado, A. (2019). Anxiety in Athletes: Gender and Type of Sport Differences. *International journal of psychological research, 12*(1), 9–17.
<https://doi.org/10.21500/20112084.3552>

- De Francisco, Cristina, et al. "Antecedents and Consequences of Burnout in Athletes: Perceived Stress and Depression." *International Journal of Clinical and Health Psychology*, vol. 16, no. 3, 2016, pp. 239-246. doi:10.1016/j.ijchp.2016.04.001.
- Dias, C., Cruz, J. F., & Fonseca, A. M. (2012). The relationship between multidimensional competitive anxiety, cognitive threat appraisal, and coping strategies: A multi-sport study. *International Journal of Sport and Exercise Psychology*, 10(1), 52–65. <https://doi.org/10.1080/1612197X.2012.645131>
- Evans J. S. (2003). In two minds: dual-process accounts of reasoning. *Trends in cognitive sciences*, 7(10), 454–459. <https://doi.org/10.1016/j.tics.2003.08.012>
- Gould, D., Greenleaf, C., & Krane, V. (2002). Arousal-anxiety and sport behavior. In T. S. Horn (Ed.), *Advances in sport psychology* (pp. 207-241). Human Kinetics.
- Hagan, J. E., Jr, Pollmann, D., & Schack, T. (2017). Elite Athletes' In-event Competitive Anxiety Responses and Psychological Skills Usage under Differing Conditions. *Frontiers in psychology*, 8, 2280. <https://doi.org/10.3389/fpsyg.2017.02280>
- Hardy, L. (1990). A catastrophe model of anxiety and performance. In J. G. Jones, & L. Hardy (Eds.), *Stress and performance in sport* (pp. 81-106). Chichester: Wiley.
- Hanin, Y. L. (2010). Coping with anxiety in sport. In *Coping in sport: Theory, methods, and related constructs* (pp. 159-175).
- Ivaskevych, D., Fedorchuk, S., Borysova, O., Kohut, I., Marynych, V., Petrushevskiy, Y., ... & Tukaiev, S. (2020). Association between competitive anxiety, hardiness, and coping strategies: a study of the national handball team.

- Jensen P., Roman J., Shaft B., Wrisberg C. In the cage: MMA fighters' experience of competition. *Sport Psychol.* 2013;27:1–12.
- Kristjánsdóttir, H., Erlingsdóttir, A. V., Sveinsson, G., & Saavedra, J. M. (2018). Psychological skills, mental toughness and anxiety in elite handball players. *Personality and Individual Differences*, 134, 125-130.
- Lautenbach, F., Laborde, S., Achtzehn, S., & Raab, M. (2014). Preliminary evidence of salivary cortisol predicting performance in a controlled setting. *Psychoneuroendocrinology*, 42, 218–224.
<https://doi.org/10.1016/j.psyneuen.2014.01.011>
- Lazarus, R. S. *Stress and Emotions: A New Synthesis*. Free Association, 1999.
- Martínez-Gallego, R., Villafaina, S., Crespo, M., & Fuentes-García, J. P. (2022). Gender and age influence in pre-competitive and post-competitive anxiety in young tennis players. *Sustainability*, 14(9), 4966.
- Moon, Y., & Woo, H. (2025). Key risk factors of generalized anxiety disorder in adolescents: machine learning study. *Frontiers in Public Health*, 12, 1504739.
- Mennin, D. S., Turk, C. L., Heimberg, R. G., & Carmin, C. N. (2004). Regulation of emotion in generalized anxiety disorder. In S. M. Orsillo & L. Roemer (Eds.), *Cognitive therapy across the lifespan: Evidence and practice* (pp. 60-89). Cambridge University Press.
- Mishica, C., Kyröläinen, H., Hynynen, E., Nummela, A., Holmberg, H. C., & Linnamo,

- V. (2021). Relationships between Heart Rate Variability, Sleep Duration, Cortisol and Physical Training in Young Athletes. *Journal of sports science & medicine*, 20(4), 778–788. <https://doi.org/10.52082/jssm.2021.778>
- Mishra, A. K., & Varma, A. R. (2023). A Comprehensive Review of the Generalized Anxiety Disorder. *Cureus*, 15(9), e46115. <https://doi.org/10.7759/cureus.46115>
- Mojtahedi, D., Dagnall, N., Denovan, A., Clough, P., Dewhurst, S., Hillier, M., Papageorgiou, K., & Perry, J. (2023). Competition anxiety in combat sports and the importance of mental toughness. *Behavioral Sciences*, 13(9), 713. <https://doi.org/10.3390/bs13090713>
- Morris, L. W., Davis, M. A., & Hutchings, C. H. (1981). Cognitive and emotional components of anxiety: literature review and a revised worry-emotionality scale. *Journal of educational psychology*, 73(4), 541–555.
- Munir, S., & Takov, V. (2022, October 17). Generalized anxiety disorder. In *StatPearls* [Internet]. StatPearls Publishing. Available from <https://www.ncbi.nlm.nih.gov/books/NBK441870/>
- Nicholls, A. R., & Polman, R. C. (2007). Coping in sport: A systematic review. *Journal of sports sciences*, 25(1), 11–31. <https://doi.org/10.1080/02640410600630654>
- Nicholls, A. R., Taylor, N. J., Carroll, S., & Perry, J. L. (2016). The development of a new sport-specific classification of coping and a meta-analysis of the relationship between different coping strategies and moderators on sporting outcomes. *Frontiers in psychology*, 7, 1674.
- Pluhar, E., McCracken, C., Griffith, K. L., Christino, M. A., Sugimoto, D., & Meehan,

- W. P., 3rd (2019). Team Sport Athletes May Be Less Likely To Suffer Anxiety or Depression than Individual Sport Athletes. *Journal of sports science & medicine*, 18(3), 490–496.
- Purcell, R., Gwyther, K., & Rice, S. M. (2019). Mental Health In Elite Athletes: Increased Awareness Requires An Early Intervention Framework to Respond to Athlete Needs. *Sports medicine - open*, 5(1), 46. <https://doi.org/10.1186/s40798-019-0220-1>
- Raglin, J. S., & Morris, M. J. (1994). Precompetition anxiety in women volleyball players: a test of ZOF theory in a team sport. *British journal of sports medicine*, 28(1), 47–51. <https://doi.org/10.1136/bjism.28.1.47>
- Ramis, Y., Viladrich, C., Sousa, C., & Jannes, C. (2015). Exploring the factorial structure of the Sport Anxiety Scale-2: invariance across language, gender, age and type of sport. *Psicothema*, 27(2), 174–181. <https://doi.org/10.7334/psicothema2014.263>
- Rathod, K. K. (2020). “A comparison of anxiety and aggression level between male and female players.”50, 516–522.
- Reeves, J. L., Tenenbaum, G., & Lidor, R. (2007). Choking in front of the Goal: The effects of self-consciousness training. *International Journal of Sport and Exercise Psychology*, 5(3), 240-254.
- Rice, S. M., Purcell, R., De Silva, S., Mawren, D., McGorry, P. D., & Parker, A. G. (2016). The mental health of elite athletes: A narrative systematic review. *Sports medicine*, 46, 1333-1353.
- Rosli, U. I., Ismail, Z., & Mohd Kassim, A. F. (2022). The perception of athlete’s anxiety

- experience in team and individual sports. *Jurnal Sains Sukan & Pendidikan Jasmani*, 11(1), 29–37. <https://doi.org/10.37134/jsspj.vol11.1.4.2022>
- Rowland, D. L., & van Lankveld, J. J. D. M. (2019). Anxiety and Performance in Sex, Sport, and Stage: Identifying Common Ground. *Frontiers in psychology*, 10, 1615. <https://doi.org/10.3389/fpsyg.2019.01615>
- Sanchez-Garcia, N., Villaverde-Gutiérrez, C., Ramírez-Rodrigo, J., Ruiz-Villaverde, G., Arroyo-Morales, M., & Ruiz-Villaverde, R. (2004). ACTH, beta-endorphin, and levels of anxiety in middle-age athletes. *International Journal of Sport Psychology*, 35(2), 149-156.
- Soltani, H., Hojati, Z., & Reza Attarzadeh Hossini, S. (2016). Comparative analysis of competitive state anxiety among team sport and individual sport athletes in Iran. *Physical Education of Students*, 20(5), 57-60. <https://doi.org/10.15561/20755279.2016.0508>
- Stanley, M. A., Beck, J. G., & Glassco, J. D. (1996). Treatment of generalized anxiety disorder in older adults: A preliminary comparison of cognitive-behavioral and supportive approaches. *Behavior Therapy*, 27(4), 565–581.
- Strack, F., & Deutsch, R. (2004). Reflective and impulsive determinants of social behavior. *Personality and social psychology review: an official journal of the Society for Personality and Social Psychology, Inc*, 8(3), 220–247. https://doi.org/10.1207/s15327957pspr0803_1
- Thomas, O., Maynard, I., & Hanton, S. (2004). Temporal aspects of competitive anxiety

- and self-confidence as a function of anxiety perceptions. *The Sport Psychologist, 18*(2), 172-187.
- Shi, L., et al. (2024). Exploring the association of mindfulness, confidence, competitive state anxiety, and attention control in soccer penalty shootouts. *Frontiers in Psychology, 15*, 1439654. <https://doi.org/10.3389/fpsyg.2024.1439654>
- Verner-Filion, J., Vallerand, R. J., Donahue, E. G., Moreau, E., Martin, A., Mageau, G. A., & Martin, A. (2014). Passion, coping, and anxiety in sport: The interplay between key motivational and self-regulatory processes. *International Journal of Sport Psychology, 45*(6), 516-537.
- Werner, C., Parrish, D., & McIngvale, E. (2023). *The future of mental health in sport: CBT and athletes. Sport Social Work Journal, 1*(1), 1-15. <https://openjournals.bsu.edu/sportsocialworkjournal/article/view/4324>
- White, J., Keenan, M., & Brooks, N. (1992). Stress control: A controlled comparative investigation of large group therapy for generalized anxiety disorder. *Behavioural Psychotherapy, 20*(2), 97–113
- Woodman, T., & Hardy, L. (2003). The relative impact of cognitive anxiety and self-confidence upon sport performance: A meta-analysis. *Journal of Sports Sciences, 21*(6), 443–457. <https://doi.org/10.1080/0264041031000101809>

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