# Psychological resilience, stress, coping styles, mindfulness and social support in student athletes: An explanatory sequential mixed research design

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This study aimed to test the hypothetical model concerning the mediation roles of coping strategies, mindfulness, and perceived social support on the relationship between psychological resilience and perceived stress among student-athletes. Additionally, this study compared the hypothetical model, with a specific focus on gender and sports type (individual sports and team sports) differences. Moreover, interview sessions were conducted to collect qualitative data and gain a deeper understanding of this hypothetical model. Both quantitative and qualitative research methods were employed within the framework of an explanatory mixed research design. In the quantitative data collection phase, data were obtained from 604 student-athletes, while the qualitative data collection phase involved conducting semi- structured interviews with ten student-athletes. Quantitative data were analyzed using Multigroup Structural Equation Models, whereas qualitative data were analyzed through Phenomenological analysis. The study findings partially verified the hypothetical model, indicating that problem-focused coping, mindfulness, and perceived social support mediated the impact of participants' stress on psychological resilience. Conversely, avoidance-oriented coping did not have a mediating effect on psychological resilience. Furthermore, the resilience model did not differ in terms of gender and sport type. The analysis of the qualitative data unveiled four main themes: stress factors, protective internal factors, protective external factors, and positive results. The findings from these themes supported and confirmed the hypothetical model. It was found that social support, problem-focused coping, and mindfulness influenced the relationship between stress experienced by student-athletes and their psychological resilience. Overall, these findings suggest that supporting student- athletes with psychological factors such as problem-oriented coping with stress, mindfulness, and social support is crucial for optimizing their performance and efficiency.

KEY WORDS: Resilience, Stresss, Coping, Mindfulness, Social Support, Student-Athletes.

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# Introduction

Sports provide a natural environment for studying human behavior and learning how individuals respond to various adversities, including injuries, short-term and long-term difficulties, abuse, isolation, environmental and financial problems, insomnia, working under adverse conditions, and exposure to discrimination (Petitpas et al., 2005; Guest, 2008). These negative experiences are common among athletes, and they may also face stress, injuries, mental health problems, abuse, and failures (Fletcher & Hanton, 2003; Stirling & Kerr, 2008; Mellalieu et al., 2009; Papathomas & Lavallee, 2012; Mellalieu, Shearer & Shearer, 2013; Tamminen, Holt, Neely, 2013). Athletes' ability to cope with these experiences and show positive adaptation is a crucial factor that contributes to their success (Meijen et al., 2020).

Psychological resilience, which refers to the ability to respond positively to difficult experiences and adversities, is an essential characteristic for an athlete (Morgan, Fletcher, & Sarkar, 2019). Resilience is increasingly recognized as a critical psychological trait for athletes, impacting their performance, mental health, and recovery from setbacks. Recent studies have highlighted various factors contributing to resilience, including social support, coping strategies, and personality traits. In order to effectively deal with challenging and stressful situations, athletes need to possess this ability. Resilience in athletes is defined as the ability to adapt and bounce back from adversity, stress, and challenges. This trait is essential for maintaining mental health and optimal performance, especially in high-pressure environments (Gordon et al., 2023). The growing body of literature on resilience in athletes underscores its multifaceted nature and significance in sports psychology. This study aims to identify the factors related to the psychological resilience of athletes. Two theoretical models have been proposed to explain the psychological resilience processes of athletes: the Grounded Theory of Psychological Resilience (Fletcher and Sarkar, 2012) and the Conceptual Model of Sport Resilience (Galli and Vealey, 2008). Both models categorize the types of adversity that athletes face, such as competitive, organizational, personal stressors, injuries, performance issues, illness. In both models, stress factors, social support, focus, coping, and positive personality traits are identified as critical factors affecting the psychological resilience process of athletes.

Stress is a common experience for athletes across all levels of competition. It can result from various sources, including performance pressures, training demands, injuries, and personal life challenges. Managing stress is critical for both maintaining optimal performance and protecting athletes' mental health (Nicholls & Thelwell, 2010). Stress is closely related to mental health (Brennan, 2001), and it is an important factor for athletes' performance and well-being (Humphrey, Yow, & Bowden, 2000; DiBartolo & Shaffer, 2002). High levels of stress are linked to mental health issues in athletes, including anxiety, depression, and mood disorders. Athletes with poor stress management are more likely to experience performance anxiety, which can lead to "choking" under pressure (Rice et al., 2023). In contrast, those who develop effective coping strategies are better able to manage stress and maintain mental health (Jones et al., 2023). Inability to cope with stress can lead to depression, illness, hopelessness, and suicidal ideation (Johnson & Sarason, 1978; Ciarrochi, Deane & Anderson, 2002; Risch et al., 2009; Davidson & Glick et al., 2012). Stress can have a negative effect on athletes' physical and psychological well-being (Edwards et al., 2001; Lund et al., 2010; Beiter et al., 2015; Chang, 2006). Athletes experience both acute stress, which occurs in response to immediate pressures (such as a critical game or race), and chronic stress, which can result from prolonged exposure to stressors like injury, overtraining, or ongoing competition pressure (Gustafsson et al., 2023). Chronic stress can lead to negative health outcomes, such as burnout, fatigue, and even cardiovascular issues if left unaddressed (Kellmann et al., 2022). The primary sources of stress in athletes can be divided into competitive stress (e.g., fear of failure, pressure to perform), organizational stress (e.g., scheduling conflicts, team dynamics), and personal stress (e.g., financial concerns, relationships) (Arnold et al., 2023). Competitive stress is particularly high in elite athletes, who often face significant pressure to meet performance expectations, win competitions, and secure sponsorships (Jones et al., 2023). Sources of stress for athletes include performance pressure, concerns about the work and competition environment, lack of self-confidence, fear of injury, trainer behaviors, and balancing sports and life outside of sports (Anshel and Anderson, 2002; Nicholls et al., 2006; O'Neil & Stevn, 2007; Thelwell, Weston & Greenlees, 2007; Anshel & Sutarso, 2007; McKay & White, 2008; Mellalieu et al., 2009; Kara, Türküm, & Turner, 2023). Athletes use complex psycho-social and behavioral processes to overcome these stressors (McKay et al., 2008; Sarkar & Fletcher, 2014a). Considering the destructive effects of stress and stress factors such as difficulties in sports life, constant pressure to perform, being limited in a athletic career at a certain age range, and the risk of injury when ending a career, psychological resilience is critical for athletes (Collins & MacNamara, 2012; Fletcher & Sarkar, 2012; Bromley et al., 2018).

In the relationship between stress and psychological resilience processes, several factors play a crucial role. This study examines the roles of coping strategies, mindfulness, and social support through structural equation modelling, while also considering athletes' gender and the type of sport they participate in, whether individual or team sports. After model testing, a qualitative phase was conducted using semi-structured interviews to reveal the resilience process of athletes in depth, based on the results obtained from the structural model. Recent studies suggest that the relationship between stress and resilience is bi- directional. While resilience helps mitigate the negative effects of stress, exposure to stress can also help develop resilience. Athletes who experience controlled levels of stress, such as through competitive challenges, can build resilience over time (Fletcher & Sarkar, 2023). This "stress inoculation" theory supports the idea that athletes can strengthen their resilience by learning to manage stress effectively in competitive settings (Chandler et al., 2020).

Coping strategies are a complex process involving managing internal and external difficulties that exceed personal resources, requiring constantly changing cognitive and behavioral efforts (Lazarus & Folkman, 1984). For athletes, coping strategies are essential for dealing with the pressures of competition, training, injuries, and balancing personal life. The choice of coping strategy has a significant impact on both mental health and athletic performance, and recent research has focused on understanding which coping mechanisms are most effective for athletes in various contexts (Fletcher & Sarkar, 2013). Athletes need to develop effective coping strategies to manage stress factors they encounter both in sports and daily life (Nicholls, 2010; Sarkar & Fletcher, 2014b). Athletes apply coping strategies to regulate themselves in the face of high-stress situations during competition, using different strategies such as humour, social support from friends or family, or problem avoidance (Anshel et al., 2000; Kowalski et al., 2005; Alsentali & Anshel, 2015; Gaudreau, Nichols, & Levy, 2010; Azizi, 2011). Effective strategies can reduce the risk factors caused by stress (Vaillant, 1977), with problem-focused coping strategies reducing stress and increasing resilience, while avoidant coping strategies may cause permanent stress and lower resilience in the long run (Campbell-Sills, Cohan, & Stein, 2006). Problem-focused coping involves addressing the stressor directly, through efforts such as seeking information, planning, or altering one's approach to the situation. This type of coping is generally considered more effective in dealing with controllable stressors, such as improving performance or managing training loads. A study by Nicholls et al. (2020) found that problem-focused coping was positively correlated with better performance outcomes and lower stress levels in athletes across various sports. Seeking social support has been identified as a critical resource for coping in athletes. Athletes with strong support systems-comprising coaches, teammates, friends, and family are better able to manage stress and bounce back from adversity (Freeman & Rees, 2010). A study by DeFreese et al. (2021) found that social support moderated the relationship between stress and burnout, with athletes who perceived high levels of support reporting lower levels of stress and higher resilience. This highlights the importance of fostering supportive environments for athletes, especially during times of high pressure or recovery from injury. Avoidance-focused coping, which involves denving or avoiding the stressor, is another strategy used by some athletes. However, research suggests that avoidance is typically associated with negative outcomes, such as increased stress and lower resilience (Nicholls et al., 2016). Athletes who rely on avoidance-focused coping are more likely to experience burnout and reduced motivation over time. Ivarsson et al. (2018) highlighted that avoidance coping in response to competitive pressure can exacerbate performance anxiety and undermine confidence. While negative coping styles may mediate stress management, they may also lead to unhealthy stress management and increased potential harm (Day & Livingstone, 2001; Ben-Zur, 2009; Azizi, 2011). Successful athletes often employ a range of coping mechanisms to manage stress, such as mental skills training (e.g., visualization, self-talk), relaxation techniques (e.g., breathing exercises, meditation), and time management strategies (Nicholls & Levy, 2023). The ability to reframe stress as a challenge rather than a threat is a key factor in maintaining performance under pressure (Fletcher & Sarkar, 2022). Athletes who demonstrate resilience often employ effective coping mechanisms, such as emotional regulation and positive reframing, to handle stress. These strategies enable athletes to bounce back from failures and maintain a positive outlook despite setbacks (Rouse et al., 2023). Research has also found that resilient athletes are more likely to view stressors as challenges rather than threats, which fosters growth and improves performance (Nicholls & Polman, 2022).

Mindfulness is one of the factors that helps athletes to adapt positively to challenging situations and stress and helps them overcome negative life events. Mindfulness involves purposefully giving attention to the present moment without judgment (Kabat-Zinn, 2003). This awareness provides a constructive and objective focus, helping maintain concentration during stressful times. Mindfulness can serve as a coping strategy in the process of overcoming stress, playing a functional and adaptive role, particularly before challenging sports events (Allen & Leary, 2010). Mindfulness has a protective effect against athlete exhaustion and the negative effects of daily stress (Gardner & Moore, 2004; Moore, 2009; Bernier, Thienot, Codron, & Fournier, 2009; Jouper & Gustafsson, 2013; Gustafsson et al., 2015; Moen, Federici, & Abrahamsen, 2015). A systematic review by Sappington and Longshore (2015) highlights the

consistent finding that mindfulness helps athletes detach from negative emotions, which allows them to respond more adaptively to stress. Psychological resilience emphasizes responding and adapting to stressful events (Ahern et al., 2006). Individuals with high psychological resilience can activate their capacity to maintain physical and psychological balance during stressful life events and recover quickly (Rvff & Singer, 2003). Mindfulness has also been shown to foster psychological resilience, enabling athletes to cope with setbacks such as injuries, losses, and performance slumps (Rumbold, Fletcher, & Daniels, 2020). The practice of mindfulness allows athletes to process stressful situations without becoming overly reactive, helping them recover more quickly from adversity. Mindfulness helps athletes manage emotional responses to both success and failure, increasing their capacity to maintain performance under pressure (Jones & Parker, 2021). Some emerging research has explored the gender differences in mindfulness outcomes among athletes. A study by Thompson and Kaufman (2023) found that female athletes benefitted more from mindfulness practices in reducing anxiety and improving emotional well-being compared to their male counterparts. Mindfulness has proven to be an effective tool for improving athletic performance, reducing stress, enhancing psychological resilience, and aiding in injury rehabilitation. Mindfulness may have a protective role in the relationship between stress and psychological resilience.

Social support plays a pivotal role in the well-being and performance of athletes, acting as a buffer against stress and contributing to psychological resilience. In the last decade, research has increasingly focused on how various forms of social support (from coaches, teammates, family, and friends) influence athletes' mental health, performance, and ability to cope with challenges (Fletcher & Sarkar, 2012). It is the subjective judgment of an individual that they can access support from family, teammates, and coaches when needed

(Freeman, Coffee, & Rees, 2011). Athletes often receive support from coaches, teammates, friends, and parents, and social support acts as a buffer that protects them from the negative effects of stress (Cohen & Wills, 1985; Rosenfeld, Richman, & Hardy, 1989). Social support from coaches, teammates, and family is crucial in helping athletes cope with stress. A strong support network can buffer the negative effects of stress, providing emotional reassurance and practical solutions to challenges (Tamminen et al., 2023). Athletes who perceive high levels of social support are more likely to report lower stress and better mental health outcomes. Strong social relationships can reduce depression in athletes. Teammates also play a crucial role in providing social support, especially in team sports. Athletes often spend extended periods training and competing together, which fosters strong bonds (Armstrong & Oomen-Early, 2009 ;Fransen et al. 2020), and the high-qual-

ity social support that athletes receive from family, coaches, teammates, and other personnel is an important component of their psychological resilience, protecting them from pressure from the environment. Athletes who perceive they have high levels of social support view competition as a challenge rather than a threat. Therefore, social support not only contributes to psychological resilience but also acts as a shield against high-stress situations (Fletcher & Sarkar, 2012). Social support is a critical factor in the relationship between stress and resilience. Athletes who perceive strong support from coaches. teammates, and family are better equipped to manage stress and maintain resilience (Weiss et al., 2023). Support systems provide emotional and motivational resources, which can buffer against the negative effects of stress and help athletes develop more robust resilience. Ivarsson et al. (2021) found that athletes who received emotional and instrumental support from their family, friends, and medical professionals during recovery had faster and more positive rehabilitation outcomes. The type of sport (individual vs. team) can influence the nature and importance of social support. According to a study by Schinke et al. (2018), athletes in individual sports tend to feel isolated during difficult times, making the support from close relationships even more critical for their mental well-being and motivation.

Athletes are grouped based on various categories such as gender, amateurism or professionalism, individual or team sports, and the stress levels experienced by these groups also vary. Student-Athletes, who pursue professional sports while continuing their education, form a distinct group that experiences unique stressors (Sedlacek & Adams-Gaston, 1992; Valentine & Taub, 1998; Fletcher, Benshoff, & Richburg, 2003). The dual role of being a student-athlete is expected to increase stress levels as they are expected to excel academically and athletically (Settles, Sellers, & Damas, 2002). This can impact their athletic performance as well as their overall health and wellbeing. Student-Athletes who are unable to manage stress effectively are more likely to experience severe mental health issues (Etzel, Ferrante, & Pinkney, 2006; Yusko et al.). Coping mechanisms, awareness, and perceived social support are crucial for student-athletes to develop psychological fortitude (Lu et al., 2008; Lu et al., 2012).

The aim of this research is to identify the psychological resilience characteristics of student-athletes. The study consists of two phases, quantitative and qualitative. In the quantitative phase, a theoretical model that depicts the relationship between stress and psychological resilience of student-athletes is analyzed through structural equation modeling. The model also includes the mediating roles of coping strategies, mindfulness, and social support. Furthermore, the proposed model is analyzed according to gender and the type of sport, namely individual and team sports. In the qualitative phase, semi-structured interviews are conducted to gain in-depth insight into the resilience process of student-athletes. The interviews focus on the challenges student-athletes face in their sporting life, the impact on their psychological resilience processes, the effects of the social support they receive, the coping strategies they use for positive adaptation processes, and how they maintain their focus during competitions in challenging situations.

# Material And Methods

This study employed an explanatory sequential mixed-methods design, combining both quantitative and qualitative approaches. This design allows the researchers to explore the relationships between variables (quantitative) and then gain a deeper understanding of the results through participant experiences (qualitative) (Creswell, 2014).

Phase 1: Quantitative Analysis: In the first phase, the researchers used structural equation modeling (SEM) to test a hypothetical model involving several variables, such as psychological resilience, stress, coping strategies, mindfulness, and social support, in athletes. The quantitative phase aimed to examine the mediation effects of coping strategies, mindfulness, and social support in the relationship between psychological resilience and stress. The SEM approach was essential to understand the direct and indirect effects of these variables.

Phase 2: Qualitative Analysis: The second phase consisted of semi-structured interviews conducted with athletes to provide a more in-depth exploration of how psychological resilience functions in stressful situations. The qualitative data was analyzed using inductive phenomenological analysis, allowing the themes to emerge naturally from the athletes' lived experiences.

#### PARTICIPANTS

### Quantitative Phase

Sample Size: Data were collected from 604 student-athletes, selected through purposive sampling to ensure that the sample included both individual and team sport athletes. Swann, Moran, and Piggott (2015) developed a formula that calculates the level of athlete competitiveness. According to this formula, most participants fell into the category of competitive elites. Power analysis was performed using the Sample Size Calculator (Soper, 2022) with a medium effect size (R = 0.3) (Cohen, 1988), which recommended a minimum of N = 210 participants with  $\alpha$  = 0.05 and 90% probability (Westland, 2010). Since the Multigroup Structural Equation Model with two groups was used in the study, 420 participants were taken in account. The mean age of student-athletes was 21.7 with a standard deviation of 3.7. On average, these athletes trained for 6.5 hours per week with a standard deviation of 2.6. Football players made up 27% of participants, with volleyball (12.14%), basketball (6.8%), swimming, athletics, handball, taekwondo, tennis, wrestling, kickboxing, archery, gymnastics, and karate each accounting for 4.3%.

Inclusion Criteria: Participants were required to actively participating in either individ-

ual or team sports at a national or international competitive level, and currently enrolled in an educational institution. Participants must be classified as either national or international level athletes, following the competitiveness level formula (Swann et al., 2015) outlined in the study. Both team sport and individual sport athletes are included in the study to ensure variability in sports types. Participants must provide informed consent, agreeing to participate in both the survey and any required data collection activities. Athletes who engage in a minimum of 6 hours of training per week.

Exclusion Criteria: Individuals who are not currently enrolled in an educational institution or are no longer competing in sports will be excluded. Athletes competing below the national or international level are excluded from the study. Athletes who are not consistently training orparticipating in competitions at the required frequency (less than 6 hours per week) will be excluded. Any participant who fails to complete the required surveys or provides insufficient data will be excluded from the analysis.

	Participants		
Participants of Quantitative	e phase	Frequency	Percent
Gender			
Female		238	39.60
Male		363	60.39
Competitiveness level			
National		547	91.01
International		54	8.98
Sports type			
Team		375	62.39
Individual		226	37.60
Total		601	100
Participants of qualitative p	phase		
Participants	Gender	Age	Sports type
Participant 1	Female	22	Team
Participant 2	Male	25	Individual
Participant 3	Female	23	Individual
Participant 4	Male	24	Individual
Participant 5	Female	21	Team
Participant 6	Male	26	Team
Participant 7	Male	21	Team
Participant 8	Male	22	Individual
Participant 9	Male	22	Individual
Participant 10	Female	20	Team

TABLE I Particidants

# Qualitative Phase

Sample Size: A subset of 10 student-athletes from the quantitative sample participated in the qualitative phase. These participants were selected based on their availability and willingness to provide deeper insights into their resilience processes. Interview Protocol: The semi- structured interview protocol was developed after analyzing the quantitative data to explore key themes such as stress, coping mechanisms, mindfulness, and social support indepth. Interviews were recorded and lasted approximately 25 to 55 minutes.

Detailed information about the participants can be found in Table II.

#### MEASURES

### Psychological resilience Scale

The Psychological resilience Scale was developed by Connor and Davidson (2003). The scale measures the psychological resilience characteristics of individuals. The scale is 5-point Likert type and consists of 25 items (Connor & Davidson, 2003; Karaırmak, 2010). According to the results obtained from the adaptation study conducted by Karaırmak (2010), the scale was found to be valid and reliable within the Turkish culture. The study identified a three-factor structure that explained 52% of the total variance. It was reported that the scale showed no gender differences and that it adapted well to Turkish culture. The Cronbach's alpha reliability coefficient for the entire scale was found to be .92 (Karaırmak, 2010). In the current study, the reliability coefficient was determined to be .87.

Descriptive Statistics And Correlations $(N = 601)$										
Variables	1	2	3	4	5	6	7			
1. Psychological resilience	_									
2. Stress	26***									
3. Problem-focused coping	.42***	18***	—							
4. Support-seeking coping	.26***	04	.44***	_						
5. Avoidance-focused coping	.08*	.23***	.17***	.31***	_					
6. Mindfulness	.10*	35***	.07	03	32***	_				
7. Social support	.28***	18***	.25***	.29***	.01	6.76	—			
Mean	93.44	29.30	25.94	25.17	23.75	55.91	59.65			
Sd	13.17	6.47	3.72	3.83	3.71	14.18	14.35			
Minimum	49	10	13	12	11	16	13			
Maximum	125	50	33	33	32	90	84			

TABLE II Descriptive Statistics And Correlations (N = 601)

*Note.* \*\*\**p* < .001,\* *p* < .05

# Stress Scale

The Stress Scale was developed by Cohen, Kamarck and Mermelstein (1983). The scale measures individuals' perceived stress levels in life. It has a long form with 14 items and a short form with 10 items (Cohen, Kamarck, & Mermelstein, 1983; Eskin et al., 2013). The form whose validity and reliability studies were conducted by Eskin et al. (2013) was used. In this study, the Perceived Stress Scale was found to be positively correlated with the Life Events Checklist and the Beck Depression Inventory, while negatively correlated with the Rosenberg Self-Esteem Scale, the Satisfaction with Life Scale, and the Perceived Social Support Scale. The reliability coefficient of the scale was reported to be .82, and the test-retest reliability coefficient was found to be .88 (Eskin et al., 2013). In the current study, the reliability coefficient was determined to be .72.

# Coping Strategies Scale

The coping strategies scale was developed by Amirkhan (1990). The scale determines which coping strategies individuals use in stressful situations. It is a Likert-type scale consisting of 33 items and three sub-dimensions: problem solving, seeking social support, and avoidance (Amirkhan, 1990; Aysan, 1988). The adaptation of the scale into Turkish, along with its validity and reliability studies, was conducted in Turkey by Aysan (1988). As part of the validity studies, the scale was found to be positively correlated with the problem-solving dimension and the belief in internal and external locus of control for concurrent validity, while the avoidance dimension was negatively correlated with life satisfaction and positively correlated with depression levels. The overall reliability coefficient of the scale was found to be .92, with .86 for problem-solving, .82 for avoidance, and .76 for seeking social support (Aysan, 1988). In the current study, the reliability coefficient was determined to problem- solving, .86 for avoidance, and .75 for seeking social support 82.

#### Mindfulness Scale

Mindfulness scale was developed by Brown and Ryan (2003). The scale was developed to determine the awareness of one's own experiences. The scale is a Likert type and is scored from 1 to 6 (Brown & Ryan, 2003; Özyeşil et al., 2011). In the study conducted by Özyeşil et al. (2011), the scale exhibited a single-factor structure. The internal consistency coefficient of the scale was reported to be .82. Confirmatory and exploratory factor analyses confirmed that the scale was indeed single-factor. The Cronbach's alpha value of the scale was determined to be .82, which is considered an acceptable level. To ensure language equivalence, English-Turkish and Turkish-English translations were applied, and positive and significant correlations were found between the results. Based on the factor analysis results, the scale was confirmed to be unidimensional. The internal consistency coefficient and test- retest correlation were reported as .80 and .86, respectively. Additionally, a positive relationship was found between scores from the mindfulness scale and university students' self-compassion scores, while a negative relationship was identified between scores from the Depression, Anxiety, and Stress Scale (Özyeşil et al., 2011). In the current study, the reliability coefficient was found to be .87.

### MULTIDIMENSIONAL SOCIAL SUPPORT SCALE

Multidimensional Social Support Scale Zimet et al. (1990) developed by. The scale was developed to assess social support from friends, family, and significant others. The original scale consists of 12 items. The scale consists of three dimensions: family, friend and important person (Zimet et al., 1990; Eker & Akkar, 1995). The validity study conducted by Eker and Akkar (1995) was carried out with sample groups including normal, medical, and psychiatric/psychological problem cases. The results supported the three-factor structure of the scale, which consists of "family," "friends," and "a special person." In the study assessing the validity of the scale, the concurrent validity with similar scales was found to be .73. A strong correlation was found between the Perceived Social Support Scale and the Social Support Behaviors Scale, confirming it as a valid social support scale. The reliability studies of the scale reported Cronbach's alpha values ranging between 0.80 and 0.95, indicating acceptable internal consistency across the three samples for both the scale and its subscales (Eker & Akkar, 1995). In the current study, the reliability coefficient was determined to be .80.

### SEMI-STRUCTURED INTERVIEW FORM AND RESEARCHER DIARIES

Semi-Structured Interviews: Interviews were conducted using a guide developed from the quantitative findings. The questions explored the athletes' coping mechanisms, mindfulness practices, sources of social support, and the role of these factors in enhancing resilience. A semi-structured interview protocol was formulated to be utilized in the qualitative phase of the study. After the quantitative analysis of the research had been completed, the draft of the questionnaire was finalized in accordance with the findings. A pilot interview was conducted with two student-athletes to ensure the functionality of the semi-structured interview form, which was designed for the qualitative phase of the study. Based on the feedback and observations from the pilot interviews, the draft of the interview protocol was finalized to ensure clarity and appropriateness of the questions. This step was crucial to make sure the interview questions effectively captured the experiences of student- athletes regarding psychological resilience, stress, and coping strategies.

Researcher's Diary: A research journal was maintained to document reflections and observations before and after the interviews. Within the scope of the research, the researcher maintained a record and a research journal before and after each interview. The recordings total 58 minutes, with lengths ranging from 2 to 5 minutes. The researcher documented the experiences of the interview process, as well as his sentiments and reflections, and drew upon this source during the analysis and interview process.

# ANALYTIC STRATEGY

Student-Athletes' psychological resilience was analysed using a multi-group structural equation model, and the parcel method was employed for latent variables with exploratory factor analysis (Little et al., 2002). Outlier analysis was conducted to ensure multivariate normality, and two participants whose Z-score was outside of the range of -4 to +4 were excluded from the dataset. Mahalanobis distances were also calculated, and one person exceeding the critical chi-square value was excluded. Skewness and kurtosis values were checked for normality, and tolerance and VIF values were inspected to detect multicollinearity. The analysis also

included Harman's single factor score to check for Common Method Bias, which was below 50%. Model fit indices, including Chi-Square Statistic, Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Standardized Root Mean Square Residual (SRMR), Root-Mean-Square Error of Approximation (RMSEA), and Goodness of Fit (GFI), were assessed. Acceptable values for TLI and CFI were set at 0.90, and GFI was considered acceptable if the value was greater than zero (Bentler, 1990; MacCallum and Hong, 1997). Item parcelling was also utilized in the model. The analysis was conducted using IBM SPSS Statistics 26 and AMOS Graphics 24 programs. The qualitative data were analysed using an inductive approach.

The inductive approach was used for qualitative analysis in the study to allow themes and insights to emerge from the data without being confined to predefined categories or theories. This approach is typically used when researchers aim to explore participants' lived experiences deeply, allowing patterns, themes, and categories to form based on the data rather than a prior framework. In this study, semi-structured interviews were conducted with student-athletes to gain a comprehensive understanding of their psychological resilience. The inductive approach helped the researchers identify and develop themes, such as stress factors, protective internal and external factors, and positive outcomes, directly from the participants' descriptions, making the analysis flexible and adaptive to the athletes' unique experiences and perspectives. This method was essential to ensure that the qualitative data accurately reflected the nuances of the athletes' experiences, especially in the context of their coping strategies and the role of mindfulness and social support. In the qualitative analysis process, the interview recording was listened to after each interview, and notes were taken regarding the main themes of the interview. Subsequent interviews were conducted accordingly (Holt & Tamminen, 2010). Primary themes were established in accordance with Clarke and Braun's (2018) suggestions to demonstrate contextual connections. Long-term engagement, participant validation, and specialist review techniques were utilized to guarantee the validity and reliability of the mixed design study (Clark & Ivankova, 2015). To corroborate the sources, semi-structured interviews were conducted, and the researcher's diaries were utilized during the analysis process. Codes were sent to two researchers specializing in psychological resilience, one from the field of sports and one from the field of psychological counseling, to facilitate analyst triangulation. The codes were recoded after considering their feedback. During the thematization process, the data were shared with these two experts, and discussions were conducted via phone and online interviews. Upon finalizing the themes, the experts and the researcher reached an agreement. The MAXQDA program was utilized in the analysis of the qualitative data of the study.

#### Results

#### DESCRIPTIVE STATISTICS

Before the analysis of the research questions in the study, the correlation between the variables and descriptive statistics are presented in Table II.

Psychological resilience was related to stress (r = .26; rs < .001), and related to problem- focused coping, support-seeking coping, avoidance-focused coping, mindfulness, and social support (r = .42,  $r_s < .00$ , r = .26;

 $r_s < .001$ , r = .08;  $r_s < .05$ , r = .10;  $r_s < .05$ , r = .28;  $r_s < .001$ , respectively). Stress has negative relationships with problem-focused coping, mindfulness and social support (r = .18, r = .35 and r = .18; rs < .001) and positive relationships with avoidance-focused coping (r = .23; rs < .001).

#### Measurement Model

There are 7 latent variables in the Measurement model and 22 observed variables that created these variables. In the first trial, it was observed that the fit indices were below the acceptable level;  $\chi 2$  (207, N = 601) = 591.194, p < .001; GFI = 0.84; CFI = 0.90; TLI = 0.88;

SRMR = 0.051; RMSEA = 0.056. Error covariance between items 4 and 5 of Psychological resilience was applied. The results of the goodness-of-fit indices calculated after these changes indicate that this model is acceptable;  $\chi^2$  (187, N = 601) = 437.169, p < .001; X2/ df=2.3, GFI=0.94; CFI = 0.94; TLI = 0.92; SRMR = 0.051; RMSEA = 0.05 (Hu and Bentler, 1999; Kline, 2005; Schreiber, et al., 2006). The standardized regression coefficients in the model ranged from .56 to .94 (p < .001). The skewness values are between -.01 and -.72, and the kurtosis values are between -.10 and -.66 and data is normal (Bachman, 2004, p. 74). Mardia's (1970) multivariate kurtosis value was calculated for multivariate normality. Measurement model value is 37.72 and the calculated value is 528, thus multivariate normality met (Raykov and Marcoulides, 2008). Heterotrait-Monotrait Ratio (HTMT) method was used for discriminant validity calculations to provide the multicollinearity assumption in the measurement model (Table III) (Hair et al., 2010). It was determined that none of the values obtained were above .85, that is, discriminant validity was ensured. Reliability values were calculated for all variables, and borderline values were determined for problem-focused coping and avoidance-focused coping, while acceptable values were obtained for other variables (Hair et al., 2018).

STRUCTURAL MODEL

The effects of stress on psychological resilience were tested through problem-focused coping, support-seeking coping, avoidance-focused coping, mindfulness and social support. In structural model, the support-seeking coping was excluded because it was not in a relationship with Stress and psychological resilience, and the goodness-of-fit indexes after this variable was removed are as follows;  $\chi 2$  (143 N = 601) = 380,386, p < .001; X2/

Variables	ω	α	CR	1	2	3	4	5	6	7
1. Psychological resilience	0.87	0.866	0.82							
2. Stress	0.80	0.80	0.77	-0.18						
3. Problem-focused coping	0.72	0.72	0.68	0.57	-0.09					
4. Support-seeking coping	0.70	0.70	0.70	0.33	0.04	0.69				
5. Avoidance-focused coping	0.64	0.62	0.64	0.11	0.38	0.25	0.45			
6. Mindfulness	0.86	0.87	0.73	0.13	-0.59	0.11	-0.02	-0.44		
7. Social support	0.87	0.87	0.82	0.32	-0.12	0.39	0.37	-0.01	0.01	

df= 2.6; GFI = .94; CFI = .93; TLI = .92; SRMR = .047; RMSEA = .053. Considering Direct Effects of structural equation modeling (Figure 1); The path between stress and avoidance-focused coping positively significant ( $\lambda$  = .42, p < .001), Stress negatively predicted mindfulness ( $\lambda$  = -.63, p < .001), social support ( $\lambda$  = -.12, p < .05), and problem-focused coping ( $\lambda$  = -.11, p < .05). On the other hand, mindfulness ( $\lambda$  = .12, p < .05), problem-focused coping ( $\lambda$  = .12, p < .05) and Social support ( $\lambda$  = .12, p < .05) positively predicted resilience. Avoidance-focused coping does not directly predict resilience. Model explains 33 percent of student-Athletes' psychological resilience.

Psychological Resilience Model. N = 601; \*p < .05, \*\*\*p < .001.

Problem-focused coping, mindfulness and Social Support are mediators between stress and psychological resilience. 5000 bootstrapping processes performed to test the significance of direct and indirect effects, the bootstrapping coefficient and the lower and upper limits of the 95% confidence intervals were calculated (Table IV). While indirect effect between stress, avoidance-focused coping and psychological resilience was not significant, 95% CI [-0.007, 0.043] other Indirect Effects Stress, problem-focused coping and psychological resilience; Stress, mindfulness, psychological resilience and stress, social support and resilience were significant with 95% CI [-0.065, -0.002], [-0.081, -0.012], and [-0.03, -0.004] confidence intervals (Preacher). and Hayes, 2008).

				% 95 CI
Model pathways	Estimated	se	Lower	Upper
Direct Effect				
Stress Mindfulness	-0.56	0.06	-0.661	-0.453
StressSocial support	-0.16	0.07	-0.294	-0.041
StressAvoidance-focused coping	0.11	0.02	0.08	0.147
Stress Problem-focused coping	-0.03	0.01	-0.057	-0.002
Mindfulness Psychological resilience	0.08	0.03	0.021	0.138
Social support Psychological resilience	0.09	0.02	0.048	0.125
Avoidance-focused coping Psychological resilience	0.17	0.13	-0.072	0.385
Problem-focused coping Psychological resilience	1.10	0.16	0.806	1.35
Indirect Effect				
Stress Problem-focused coping Psychological resilience	-0.03	0.01	-0.065	-0.002
Stress Mindfulness Psychological resilience	-0.04	0.02	-0.081	-0.012
Stress Social support Psychological resilience	-0.014	0.01	-0.03	-0.004
Stress Avoidance-focused coping Psycholo- gical resilience	0.02	0.01	-0.007	0.043

 TABLE IV

 Bootstrapping results of direct and indirect effects.

# Multigroup Structural Model of Gender

Firstly, measurement invariance of 238 female and 363 male participants tested. Measurement invariance is important for the generalizability of the model. When comparing models,  $\chi 2$ ,  $\Delta CFI$  and  $\Delta RMSEA$  values are considered. The chi-square ( $\chi 2$ ) value is expected not to be significant, but it is known that this value is highly influenced by the sample. For this reason, it is recommended to look at the difference between the values of goodness of fit. Difference is less than 0.01 constitutes measurement invariance evidence (Brown, 2015; Kline, 2016). The measurement invariance results are presented in Table V. Then, the psychological resilience model was tested for men and women. As a result of CFA analysis, it was determined that the model showed good fit for all groups.

The fit indices were acceptable for configural invariance, and the chisquare value was not significant (RMSEA<.05, CFI>.90, TLI>.90). Consid-

Gender and invariances.									
	χ2	df	р	RMSE A	CFI	TLI	ΔCFI	ΔRMS EA	
Gender									
Male	319.78 5	187	0.001	0.04 4	0.94 6	0.93 3	-	-	
Female	282.08 3	187	0.001	0.04 6	0.93 5	0.91 9	-	-	
All group	437.16 9	187	0.001	0.05	0.94	0.92	-	-	
Invariances									
Configural invariance	15.966	15	0.384	0.03 1	0.94 1	0.93	-	-	
Metric invariance	78.877	22	0.04	0.03 4	0.92 7	0.91 8	0.01	0.003	
Scalar invariance	40.054	28	0.065	0.03 4	0.92 4	0.92	0.00 3	0.001	
Strict invariance	29.257	23	0.172	0.03 3	0.92 2	0.92 2	0.00 2	0.001	

-

ering the fit indices, the assumption that the factor structure of the model is equal for men and women has been confirmed. Configural invariance, Metric invariance, Scalar invariance, Strict invariance have been assessed and measurement invariance is provided for male and female athletes. Since structural models have more parameters than measurement models, analysis results for up to 6 models can be obtained when making comparisons. However, although the AMOS program used in the study produced results with 6 models, it is recommended to compare the model in which there is no restriction for parameters and the model in which the non-standardized loads of the structural model are restricted (Brown, 2015). In model comparisons, interpretation is made according to the results of the  $\Delta\chi 2$  significance test. However, some authors also stated that it is important to consider the  $\Delta$ CFI and  $\Delta$ RMSEA tests (Cheng, 2007). As a result of the analysis, it was observed that structural invariance was achieved  $\chi 2= 21.96$ , SD= 21, p= 0.402,  $\Delta$ CFI= 0.005 and  $\Delta$ RMSEA= 0.001.

According to the structural model results of female athletes, stress positively predicts avoidance-focused coping ( $\lambda = .46$ , p < .001) and negatively predicts mindfulness ( $\lambda = -.61$ , p < .001), social support ( $\lambda = .001$ ). -.11, p < .05) and problem-focused coping ( $\lambda = -.11$ , p < .05). Mindfulness ( $\lambda = .12$ , p < .05), problem-focused coping ( $\lambda = .52$ , p < .05) and social support ( $\lambda =$ .23, p < .05) predict resilience positively. Avoidance-focused coping does not directly predict resilience. All variables explain 35 percent of psychological resilience. According to the structural model results of male athletes, stress predicts avoidance-focused coping positively ( $\lambda = .39$ , p < .001), and negatively predicts mindfulness ( $\lambda = -.68$ , p < .001), social support ( $\lambda = .39$ , p < .001), problem-focused coping ( $\lambda = -.12$ , p < .05). Mindfulness ( $\lambda = .11$ , p < .05); problem-focused coping ( $\lambda = .50$ , p < .05) and social support ( $\lambda$ = .18, p < .05) predict resilience positively. Avoidance-focused coping does not directly predict resilience. The structural model of men also explains 31 percent of the psychological resilience of men. As in the general model, the relationship between avoidance-focused coping and psychological resilience was found to be insignificant in both models. As a result, mindfulness, problem-focused coping and social support directly and indirectly predicted psychological resilience in men and women.

# Multigroup Structural Model of Sports Type

Measurement invariance was tested on the basis of sport type and the measurement invariance results of the psychological resilience model of 375 team sports And 226 Individual Sports Student Athletes Are Presented In Table VI.

The model showed good fit for all groups. As a result of the analysis, it was observed that configural invariance was provided  $\chi 2=29.46$ , SD= 20, p= 0.079,  $\Delta$ CFI= 0.003 and  $\Delta$ RMSEA= 0.01. According to the structural model results of team sports athletes, stress positively predicts avoidance-focused

TABLE VI         Sports Type Invariance									
	χ2	sd	р	RMSE A	CFI	TLI	ΔCFI	ARMS EA	
Sports type									
Team	376.49 3	187	0.001	0.05 2	0.92 5	0.90 7	-	-	
Individual	303.09 2	187	0.001	0.05 3	0.92	0.90 1	-	-	
All groups	437.16 9	187	0.001	0.05	0.94	0.92	-	-	
Invariances									
Configural invariance	21.586	15	0.119	0.03 7	0.92 1	0.90 6	-	-	
Metric invariance	23.437	22	0.377	0.03 6	0.92 1	0.91 1	$\begin{array}{c} 0.00 \\ 1 \end{array}$	$\begin{array}{c} 0.00 \\ 1 \end{array}$	
Scalar invariance	68.936	28	0.025	0.03 7	0.91 1	0.90 6	0.01	$\begin{array}{c} 0.00 \\ 1 \end{array}$	
Strict invariance	33.1	23	0.079	0.03 6	0.90 8	0.90 8	0.00 3	$0.00 \\ 1$	

coping ( $\lambda = .45$ , p < .001), stress negatively predicts mindfulness ( $\lambda = -.66$ , p < .001), social support ( $\lambda = .45$ , p < .001) and problem-focused coping ( $\lambda$ = -.11, p < .05). Mindfulness ( $\lambda$  = .14, p < .05), problem-focused coping ( $\lambda$ = .57, p < .05) and Social support ( $\lambda$  = .19, p < .05) positively predict resilience. Avoidance-focused coping does not directly predict resilience. Structural model of team sports athletes also explains 39 percent of all variables. According to the results of the structural model of athletes doing individual sports, stress positively predicts avoidance-focused coping ( $\lambda = .38$ , p < .001), negatively predicted mindfulness ( $\lambda = -.62$ , p < .001) social support ( $\lambda = -.09$ , p < .05) and problem-focused coping ( $\lambda = -.11$ , p < .05). Mindfulness ( $\lambda =$ .11, p < .05), problem- focused coping ( $\lambda = .42$ , p < .05) and social support ( $\lambda$ = .19, p < .05) positively predict resilience. Avoidance-focused coping does not directly predict resilience. The structural model of the athletes who do individual sports also explains 24 percent of the psychological resilience as a result, mindfulness, problem-focused coping and social support directly and indirectly predicted psychological resilience in team sports and individual sports. In addition, it has been determined that the explained variance is higher in team sports than in individual sports.

# **Qualitative Findings**

After quantitative results presented the qualitative findings obtained from the semi-structured interviews about the psychological resilience process were themed. Four main themes emerged: Stress Factors, Protective Internal Factors, Protective External Factors, and Positive Outcomes

# **Theme 1: Stress Factors**

Stress factors, which is the first main theme of the research, includes three sub-themes. These factors are personal stress factors, competitive stress factors, and environmental and organizational stress factors.

# PERSONAL STRESS FACTORS

The theme of personal stress factors includes "personal problems," "failure anxiety," "anxiety about the future," "loneliness," "dual roles," and "nutrition problems." The theme of personal problems refers to the stress factors arising from the athletes' personal characteristics. Individual characteristics such as inability to express oneself, shyness, or introversion can sometimes become sources of stress.

"...I am an introverted person. "I was playing a position that I did not want to be in." I didn't say it because I was afraid, so I lost my place in the rotation." (P7)

Not being able to reach the desired level in the matches they play and the anxiety of not being successful can be another source of stress for athletes. The anxiety of performing below expectations in the sports they compete in causes stress in the athletes.

"...If you don't get the best out of your in training, it creates the biggest stress. If I do not succeed or lose in the competition..." (P8).

Anxiety about the future is another stress factor for student-athletes. "Despite a successful athletic career, athletes may have concerns about what they will do after sports or an early end to their career. If an athletic career ends due to an injury or other reasons, the athletes must rearrange their careers, which can be a source of stress. "Being alone and feeling lonely in life is a stress factor for student-athletes." Individual athletes who participate in sports often stay away from social life in camps or long-term training, leading an isolated life. The researcher recorded in his diary that the loneliness experienced by athletes who participate in individual sports can affect their psychological well-being (Daily8, Minute 2). The dual roles of being both a student and an athlete, which were most repeated and stated by all participants, are the factors that force student-athletes. Student-Athletes emphasized that being a professional athlete is already exhausting and that the lessons and exams are particularly challenging for them. They stated that the time allocated for sports and school often conflicts, causing them to neglect school. Finally, under the theme of individual stress factors, there is a sub-theme of nutritional issues. Nutrition, which is an extremely critical factor in the life of an athlete, can become a source of stress for student-athletes. This is a compelling factor, especially if there are no economically viable conditions to meet nutritional needs.

# Competitive Stress Factors

Under the theme of stress factors arising from competition, the subthemes of "injury," "fear of injury or risk of re-injury," "physical preparation," "negative teammate relationships," "coach evaluation," "adaptation to the team," "performance expectations," and "competitor pressure" are available. The themes of injury and fear of injury are the most frequently repeated difficulties among athletes. Each participant stated that they had sustained an injury at some point in their sporting life, thus interrupting it. Post-injury athletes generally stated that they experienced feelings such as disappointment, anger, and frustration. Student- Athletes have a very difficult time with the injury process and experience fear of being injured again. The researcher noted in his diary that the injury periods of the athletes are the most difficult for them and that the injury can trigger other mental problems (Researcher's Diary notes 5th minute, 3 times).

Physical preparation involves the mental, physical, technical, and tactical preparation of the athlete. "Athletes stated that the strenuous and intense training was very difficult. Athletes stated that physical preparation is the biggest source of stress for them. Negative teammate relationships can cause athletes to experience stress and feel isolated. Factors such as not being accepted into groups, not being included in the game adequately, and being subjected to mobbing by teammates were stated as stressors related to teammates in team athletes. Evaluating coaches is one of the sources of stress that arises from competition. Athletes have often expressed that the coach's approach and attitudes towards them negatively affect their performance and psychological well-being. An inconsistent and success-oriented attitude only can be devastating for the athlete.

The process of adapting to a new team can be challenging, particularly for team athletes. In this process, being accepted by the team and becoming a part of the team can sometimes take a long time and can cause the athlete to feel isolated. The sub-theme of "Performance Expectations" for student-athletes refers to both external and internal expectations. Athletes must perform at a high level and consistently to remain in a higher league, transfer to a better team, and move up to the elite category. This can cause athletes to be under high pressure and to experience anxiety. Athletes emphasized that teams should perform well to remain in the top league, meet the expectations of team owners, participate in international tournaments, compete under better economic conditions, and sign more lucrative deals. Finally, as a sub-theme of stress factors arising from competition, there is competitor pressure. Competitors who are unknown and are higher than themselves can be a source of stress. They said that the competitors who had been trained in better conditions had a detrimental effect on their performance.

# ENVIRONMENTAL AND ORGANIZATIONAL STRESS FACTORS

Under the themes of environmental and organizational stress factors, lack of social support, unsuitable conditions, national sports policies, fan

behaviours, political factors, sexism and gender bias, financial problems, and lack of equipment emerged as a prominent stress factor frequently emphasized by athletes. Specifically, institutional social support was highlighted as a major deficiency. Athletes reported that they did not receive adequate support and appreciation from the federation or other institutions, even after achieving success. In cases of difficulties and failures, this lack of support became more evident and detrimental.

Athletes stated that the lack of suitable and sufficient training areas, as well as difficult and long journeys in unsuitable conditions, were stress factors. They also reported feeling forced to work outside when no field was available. National sports policies reflect a lack of systematic and supportive policies within the country. Student-athletes stated that they are not valued as athletes and that their success is largely due to their individual efforts. They also reported struggling without systematic training and support. For example, P4 explained the difficulties created by the sports policies in the country as follows: "At the beginning, it was difficult for me to start sports because being directed into it was purely by chance. I started when my teacher at school held a selection. There's no system in place for selection or guidance...". Behaviours of fans, such as aggression, swearing, or insulting, contribute to the pressure and stress experienced by athletes. The sub- theme of political factors focuses on the intervention of political figures in the selection and election processes of athletes from a young age. Even if athletes possess talent, they express the challenges of advancing in their athletic careers without political connections. For example, P6 described fan behavior with these words: "... Then there's the stands, of course. When I played for ... club and at ... city, there was a lot of support. But when I transfer to other club. I was met with extreme anger. It was as if I had betrayed them, as if I wasn't supposed to play for any other team. This caused me to play with some fear and anxiety. The referee couldn't intervene at all. I constantly felt insulted and as if something bad could happen at any moment. I even remember being slapped by a person in the stands while I was playing...". Additionally, sexism and gender bias add to the stress factors. Female student-athletes in Turkey report that the opportunities available to men are not equally provided to them, and they often face a lack of social support compared to their male counterparts. Formun Üstü The researcher noted in his diary that he did not observe female athletes taking full advantage of many opportunities. He also highlighted the oversight of female athletes' achievements, often receiving minimal recognition (Researcher's Diary notes 4 minutes). Financial problems emerge as an additional source of stress. Athletes expressed that insufficient or non-existent payment left them in a difficult situation, impacting

them both financially and psychologically. These financial difficulties can negatively affect their sporting lives. Finally, the lack of proper equipment adds to the stress. Student-athletes reported that working with incomplete or low-quality equipment frequently leads to frustration. They also stated that struggling with substandard equipment has a detrimental psychological effect on them. For example, P10 explained the difficulties of being a woman as follows: "... There's also psychological and social pressure, especially if you're a woman. Like, can women play football? It has decreased a bit, but still. In our neighborhood, there was a turf field, and only men were allowed to play on it; women weren't permitted. You constantly have to deal with and fight against these people, always in a defensive position, and it becomes exhausting...."

### **Theme 2: Protective Intrinsic Factors**

The second main theme of the study is internal protective factors, which play a helpful role in coping with student-athletes' stress. The themes reflecting the participants' views on internal protective factors were categorized as follows: positive coping strategies, including both emotion-focused and problem-focused coping; positive personality traits; and focusing on the moment.

# **EMOTION-FOCUSED** COPING

The study found that athletes use various coping mechanisms to deal with stress factors. National pride, humour, acceptance of the current situation, positive self-talk, relaxation techniques, positive orientation, and seeking external social support were the emotion-focused coping strategies that emerged in the study. Representing their country in competition serves as a reminder of their responsibilities, and many athletes feel pride and motivation in doing so. Humour is also used to reduce stress and find a lighter side to difficult situations. Acceptance-oriented coping helps athletes come to terms with a situation when they cannot find a solution to stress. Positive self-talk and relaxation techniques were found to help athletes perform well, and athletes reported having internal conversations to motivate themselves before matches. Positive orientation involves finding common ground and solutions that benefit all parties. Seeking social support was found to be a frequently used emotion-focused coping strategy, with athletes often turning to family, friends, and coaches for help when they exceeded their own resources or needed external support.

# **Problem-focused coping**

Student-athletes often resort to problem-focused coping strategies when facing serious problems or stressful situations that require action. These strategies include seeking information about the problem, developing new behaviours, changing current behaviours that aren't working, increasing effort in the face of stress, and putting problem-solving phases into action. Athletes can use these stages to seek information and solve problems. According to student-athletes, when faced with a problem, they first seek information about potential solutions before acting. They also reported trying to change behaviours that weren't working and increasing their effort to find a solution when faced with stress. For example, P4 expressed the information-seeking and problem-solving stages as follows: "....*At first, there was no field available, so I practiced in the park. When I got injured, we looked for a solution through my coach. For instance, I was participating in the world championship. I didn't know the language, so I immediately tried to learn it. I researched everything for a solution to my injury. I found new places. I started applying to make up for the lack of competitions...."* 

Student-athletes mentioned that when faced .with stress, they tried to change ineffective behavior and increased their efforts toward a solution. For example, P6 described how they approached the problem with these words: "...I never gave up and constantly tried to fight. I identified my mistakes and tried to correct whatever I did wrong. I never gave up in any way and didn't allow my sports activities to stop. I didn't give up, and when my performance dropped, I tried to lift it back..."

# Positive Personality Traits

Positive personality traits serve as protective factors for student-athletes. Their response to stress in various situations is influenced by their individual characteristics. In fact, successful athletes who overcame difficulties during the study possessed specific personality traits that impacted their stress and psychological resilience. These traits included determination, positivity, initiative, solution-orientation, passion, self-confidence, assertiveness, discipline, and perseverance.

# BEING PRESENT MOMENT

The final theme of protective internal factors is being present in the moment. Student- athletes face numerous distractions and stress factors during matches and training. To overcome these challenges, they use various techniques such as visualization, which involves planning and mentally rehearsing the situation, staying focused on the moment, praying or meditating to relax and stay motivated, and developing routines to help them stay present. During visualization, athletes imagine themselves in the situation and play it out in their minds. Praying can provide relief and spiritual strength, while meditation can help athletes relax and clear their minds. By staying present in the moment, athletes can overcome difficulties and perform at their best. For example, Participant 10 expressed how they practice meditation with the following words: "... To cope, I talk to my coach or I meditate. I practice transcendental meditation. I focus on breath control."

# **Theme 3: Protective Extrinsic Factors**

The third main theme of the study focuses on external protective factors, specifically social support. Student-athletes identified coaches, experts, family, teammates, friends, and institutional support as important sources of social support. They reported that social support was crucial in helping them overcome difficulties and act as a backbone for the psychological resilience process. Social support was consistently and intensely reported by all participants in the study. It acts as a shield for student-athletes in stressful situations and is a vital component of their psychological resilience process. The majority of athletes received support from their families, while some also received support from trainers and teachers. Friends, families, trainers, experts, institutions, and teammates were all identified as important sources of social support for athletes.

Athletes can overcome difficulties with support from their families and coaches, which can increase their strength to resist. Student-athletes identified their teammates as an important source of social support, acting as a protective shield against stress. Seeking psychological help from mental health experts such as psychological counselors, psychologists, and psychiatrists is also crucial for athletes. When other social support resources are insufficient, getting psychological help can contribute to the positive adaptation process of athletes. Institutional support can also be a protective factor for athletes. Athletes and their families emphasized that their federation provides continuous social support in addition to other sources of social support. For example, P3 explained this support as follows: "Before european championship, during my injury, I couldn't train for a month, and that time is something I will never forget in my life. It was such a difficult time. There Psychological resilience, stress, coping styles, mindfulness and social support in student athlete 161

was a goal. I was getting closer to the goal, but the obstacles in front of me kept increasing like a pyramid. One became two, then three; instead of decreasing, they increased. Then, just before the competition, I missed my flight and faced visa issues. During that period, my mom, my family, and my coach supported me. With their support, I managed to overcome it." Student-athletes mentioned that teammates are an important source of social support and serve as a protective shield in the face of stress. For example, P10 expressed the support of teammates as follows: "When your teammates are doing well, you receive a lot of help. Having someone to support you before, during, or after a match allows you to feel more in control. Your burst of frustration shortens. Your friends also keep an eye on you."

# **Theme 4: Positive Results**

The last main theme of the study was positive outcomes. This theme describes the positive adjustment process after exposure to stress. Most student-athletes in the study stated that they would not have been successful in their current positions if it were not for the difficulties they experienced. Thus, exposure to stress factors has come to the fore as a basic feature for positive adjustment or positive results. The main themes of positive outcomes include positive adaptation after the difficulty experienced, perseverance, adapting to new realities, accepting criticism, confronting difficulties, and stress. Resilience is working as response to adversity. Student-athletes stated that the obstacles they faced played an important role in getting them to where they are today. Although these difficulties may seem to have left a negative mark on their lives, they have also helped them become stronger. Athletes stated that they persevere in the face of long-term difficulties and achieve success by working harder. They also prefer to face difficulties directly instead of avoiding them. It has been stated that facing difficulties and not giving up in the face of stress is important.

#### DISCUSSION

The study aimed to examine the mediating roles of problem-focused coping, support- seeking coping, avoidance-focused coping, mindfulness, and social support in the relationship between stress and psychological resilience among student-athletes. The indirect effects showed that avoidance-focused coping and support-seeking coping were not predictive, while psychological resilience was predicted by stress through problem-focused coping, mindfulness, and social support. The study found that stress had a negative predictive impact on psychological resilience through problem-focused coping, whereas resilience was positively predicted through problem-focused coping. Similarly, stress was found to predict resilience positively through mindfulness, while it predicted mindfulness negatively. Additionally, stress was found to predict resilience positively through social support, while social support predicted resilience positively. In terms of the direct effects, avoid-ance-focused coping had a positive predictive impact, while problem-focused coping, mindfulness, and social support had a negative predictive impact on stress. Problem-focused coping, social support, and mindfulness had a positive predictive impact on student-athletes' psychological resilience. The study identified four main themes supporting these findings, which were Stress Factors, Protective Internal Factors, Protective External Factors, and Positive Results.

In the study, the researchers examined the effects of stress on problem-focused coping, avoidance-focused coping, mindfulness, and social support. They found a significant and positive relationship between stress and avoidance-focused coping. According to the qualitative findings, student-athletes who used avoidance-focused coping strategies tended to ignore problems instead of finding solutions, which increased their stress levels. Previous studies have also shown that the use of avoidance-focused coping strategies in high-stress situations can lead to persistent stress (Berman & Sperling, 1991; Aspinwall & Taylor, 1992; Perry & Menec, 2000; Kariv & Heimann, 2005; Dyson & Renk, 2006; Downs & Ashton, 2011; Struthers, Dias, Cruz, and Fonseca, 2012). Despite provide short term relief, use of avoidance-focused coping for a very long time can cause other mental disorders (Berman & Sperling, 1991; Hudd et al., 2000; Eisenberg et al., 2007). Stress negatively predicted problem-focused coping. However, problem-focused coping strategies have been found to be effective in reducing stress levels and providing a more solution-oriented approach (Krohne, 1996; Kariv & Heimann, 2005; Campbell-Sills, Cohan & Stein, 2006; Anshel and Sutarso, 2007). The researchers also found an inverse relationship between mindfulness and stress, indicating that mindfulness can be a protective factor against stress. Student-athletes who had high attention spans tended to focus on the present moment, which allowed them to cope more actively with stress (Brown & Ryan, 2003; Walsh et al., 2009; Dreeben, 2011). Social support was found to have a negative relationship with stress, and student-athletes emphasized the importance of social support in overcoming difficulties. The researchers found that social support acted as a buffer against stress and had a positive effect on student- athletes' well-being (Rosenfeld, Richman, & Hardy, 1989; Corbillon, Crossman, & Jamieson, 2008; Armstrong & Oomen-Early, 2009; Etzel, 2009; Raalte and Posteher, 2019; Cho, Yi Tan, and Lee, 2020).

The study found that problem-focused coping, mindfulness, and social support have positive significant effects on psychological resilience in student-athletes. The qualitative findings showed that athletes used a variety of problem-focused coping strategies such as problem-solving, goal setting, planning, and increased effort to overcome difficulties and enhance their psychological resilience. Problem-focused coping was found to reduce stress and increase positive adjustment in athletes, as supported by previous studies (Yi, Smith, & Vitaliano, 2005; Campbell-Sills, Cohan, & Stein, 2006; Rosado, Santos, & Guilén, 2012; Machida, Irwin, & Feltz, 2013; Belem et al., 2014). The qualitative findings suggested that mindfulness practices, such as meditation and focusing on the present moment, helped athletes cope with difficulties and increase their psychological resilience. Previous research has also supported the positive relationship between mindfulness and psychological resilience (Jha et al., 2010; Keve & Pidgeon, 2013). Finally, social support was found to be a crucial factor in the psychological resilience process of student-athletes. The qualitative findings emphasized the importance of social support, particularly from family and close friends, in helping athletes. The support of family and close friends makes the athletes feel valued, and the existence of positive and supportive relationships helps the athletes to survive and show positive harmony, especially in difficult times (Garmezy, 1987; Smith et al., 1992; Cederblad et al., 1995; Patterson et al., 1998).; Morgan, Fletcher, & Sarkar, 2013, 2015, 2017).

The study found that social support acts as a mediator in the relationship between stress and psychological resilience. Specifically, stress has a negative impact on social support, while social support has a positive impact on resilience. Qualitative findings also confirm these relationships, as participants stated that exposure to stress played a crucial role in their path towards positive adjustment. Student-athletes mentioned that overcoming difficulties was a decisive factor in their success. Moreover, quantitative findings suggest that social support is one of the most important mediating factors in the process of positive adjustment to stress, i.e., psychological resilience. Participants mentioned that the social support they received while overcoming difficulties was crucial in this process. Fletcher and Sarkar (2012) emphasized the crucial role of social support in the psychological resilience process. The researchers suggested that the availability of social support resources for athletes acts as a shield against the adverse effects of stress. Two models that explain the stress-social support relationship, namely the main effect and stress buffer models, underscore the preventive and curative effects of social support in

stressful situations (Bettschart et al., 1992; Nunez et al., 1992; Plancherel et al., 1994). Multiple studies have shown that social support mitigates stress and has a positive impact on both physical and psychological health (Cohen, Gottlieb, & Underwood, 2000; Vetter et al., 2010; Mitchell et al., 2014).

Personal, organizational, and competition-related stress factors can affect the performance and mental health of athletes (Hanton, Fletcher & Coughlan, 2005; Fletcher & Sarkar, 2012; Mitchell et al., 2014). Positive adjustment after difficult life events is made possible with the help of social support. Fletcher and Sarkar (2016) suggested that athletes feeling the presence of social support during periods of difficulty or underperformance is vital for the psychological resilience process. Interaction with parents, coaches, and teammates serves as a mechanism for social support and helps athletes to cope with stress, regulate their emotions and behavior, and work harder (Csikszentmihalyi, Rathunde, & Whalen, 1993; VanYperen, 1995; Jowett and Timson-Katchis, 2005). Such social support helps athletes to develop physical and psychological characteristics related to psychological resilience by creating a dynamic environment in which they feel accepted (Eccles & Harold, 1991; Côté, 1999; Hanton and Jones, 1999; Dumont & Provost, 1999; Holt & Hogg, 2002; Cutler, Göral, & Gençöz, 2005).

Another indirect effect is that problem-focused coping negatively predicts psychological resilience in the presence of stress, while problem-focused coping predicts resilience positively. Participants reported using problem-focused coping strategies, such as working harder, re-arranging themselves, and re-evaluating the situation, which they consider essential for positive adjustment and psychological resilience. According to Campbell-Sills, Cohan, and Stein (2006), individuals who use problem-focused coping strategies reduce their perceived stress and increase their psychological resilience. Research shows that athletes who use active coping strategies experience less anxiety and stress and are more likely to solve the problems they face. Coping strategies are developed based on cognitive evaluations of individual resources and abilities in stressful situations (Dickinson-Delaporte & Holmes, 2011). Individuals who use problem-focused coping take the problem as it is and use methods such as planning to solve the problem, time management, and goal setting. This helps ensure that the individual acts functionally by changing the environment or factors that cause stress, leading to positive results (Krohne, 1993; Lazarus, 1999; Nicholls & Polman, 2008). Galli and Vealey (2008) suggested that athletes who have various and effective coping resources are better equipped to handle stress and become psychologically stronger.

The final indirect effect shows that stress predicts mindfulness negatively, while mindfulness predicts resilience positively. Participants reported us-

ing practices like visualization, prayer, and meditation to relax and motivate themselves. This helps them overcome difficulties more easily and achieve their desired results. Conversano et al. (2020) emphasized that mindfulness reduces stress and depression, and many researchers have stated that it can help individuals regulate emotion and attention, strengthening psychological resilience and emotional well-being (Haves and Feldman, 2006; Walsh et al., 2009; Salmon et al., 2011; Diedrich et al., 2014; Kay, 2016; Mayordomo et al., 2016; Hanley et al., 2017; Polizzi et al., 2018). Mindfulness practices reduce internal and external stress and difficulties, contributing to psychological resilience (Durlak et al., 2011; Grabbe et al., 2012; Bluth and Eisenlohr-Moul, 2017; Mak et al., 2018; Jha et al., 2019). Mindfulness helps individuals accept their thoughts and allow them to flow freely, freeing up their working memory and enabling them to think more clearly (Pagnoni, Cekic, & Guo, 2008; Beilock, 2010). Athletes who don't pay attention to distractions under pressure are more successful (Nieuwenhuvs & Oudejans, 2012), and mindfulness can help them develop self-regulation skills and cope with stress effectively, achieving long-term psychological resilience and positive adjustment (Gardner & Moore, 2004; Moran, 2009). Overall, mindfulness can functionally activate the coping mechanism, enabling athletes to manage stress effectively and achieve positive outcomes (Van Breda, 2001; Eubanks and Gilbourne, 2003; Lightsey, 2006; Chavers, 2013; Sant, 2015; Sant, et al., 2022).

The study investigated whether the structural model of student-athletes varied by gender. The findings indicate that psychological resilience model in male and female student-athletes similarly. In the qualitative study, it was observed that male and female participants experienced similar stress factors, and the processes of coping with difficulties and positive adaptation were similar for both genders. Numerous studies have shown that the psychological resilience process is similar for men and women (Wang and Sound 2008; Tartakovsky 2009).

Although there was no difference between men and women in terms of the relationship between stress and psychological resilience in quantitative findings, sexism and gender bias was determined as a stress factor in the themes under the heading of stress factors in qualitative findings. Female athletes who faced difficulties and stressful situations stated that they received less social support than men. It has been stated that social support protects athletes from the negative effects of stress and that athletes overcome difficulties thanks to their support networks (Rosenfeld, Richman, & Hardy, 1989; Martin, 2018). Matlin (2012) stated that besides the general stress factors, there are stress factors that women are exposed to just because of their gender. These stress factors can be social, economic, and political inequality, having to work harder than men to achieve a status. For this reason, female athletes may be exposed to more challenging environmental factors for their sportive development (Eccles, Jacobs, & Harold, 1990).

While quantitative findings did not reveal any difference between men and women in terms of the relationship between stress and psychological resilience, qualitative findings suggested that sexism and gender bias is a stress factor. Female athletes facing difficulties and stressful situations more than men and receiving less social support than men. Matlin (2012) stated that women face gender-specific stress factors such as social, economic, and political inequality and the need to work harder than men to achieve a status. Consequently, female athletes may face more challenging environmental factors that hinder their athletic development (Eccles, Jacobs, & Harold, 1990). Some researchers have pointed out that the context, whether political or socio-cultural, affects how athletes see and experience challenges (Fletcher & Sarkar, 2012).

It was tested whether the model changed according to the type of sport. It is found that the psychological resilience model is similar for both individual and team sports. These quantitative findings are supported by qualitative findings that indicate similar stress factors and psychological resilience processes for individual and team athletes. Other studies have similarly shown that psychological resilience processes and coping strategies are comparable for both individual and team athletes (Boghrabadi, Arabameri, & Sheikh, 2015; Mahoney, Gabriel, & Perkins, 1987; Siadat & Keikha, 2013).

# Conclusion

In this research, a hypothetical model was tested using the conceptual model of athlete psychological resilience (Galli & Vealey, 2008) and the psychological resilience theory (Fletcher & Sarkar, 2012) framework. The hypothetical model in this study also revealed the mediating roles of coping strategies, mindfulness, and social support in the relationship between stress and psychological resilience. Through interviews with student-athletes, it was found that they face different stress factors and difficulties such as individual, competitive, environmental, and organizational, but they view these difficulties as an opportunity for development and empowerment. Themes of positive adjustment, perseverance, and adaptation to a new reality emerged, highlighting how athletes achieve positive results after experiencing stress, viewing it as part of the psychological resilience process. They emphasized the protective role of social support, positive coping strategies, and focus they received or perceived while coping with stress. Evaluating stress and solving the problem using coping strategies with a problem-oriented understanding helps athletes develop permanent positive coping skills in the long run. Mindfulness helps student-athletes stay in the moment, affects their focus, and acts as a self-regulation mechanism, minimizing the negative consequences of stress. It helps athletes stay focused on the present and make effective decisions, preventing stress from taking a toll on their mental well-being.

Social support, which was tested and verified in the model, instills a sense of confidence in athletes and makes them feel accepted, providing a safe environment. However, the nature and content of social support should also be questioned, as some athletes were not satisfied with the support they received from their family or coach. Although social support is crucial, it needs to be provided in a meaningful way to contribute to sports performance and psychological well-being. Everyone close to the athletes, including trainers, family members, and institutional authorities, needs to be knowledgeable about the type of support to provide to athletes to enhance their success and well-being.

Overall, the relationship between stress and resilience in athletes is dynamic and complex. The implications of this study suggest that problem-focused coping, mindfulness, and social support are important factors in enhancing student-athletes' psychological resilience and coping with stress. It also suggests that avoidance-focused coping may not be effective and that protective internal and external factors can lead to positive outcomes. To put it briefly, resilience holds significance in sports as it has a beneficial impact on athletes' performance and their capacity to bounce back from challenges and hardships. The extent of resilience can differ based on athletes' gender, age, and level of competition, and it can be linked to their capability to confront and adapt effectively to injuries or potential injuries. Social support can significantly impact the relationship between stress and psychological resilience in athletes. It can help athletes cope with stress, enhance their psychological resilience, and improve their overall well-being and performance. Therefore, fostering a supportive environment for athletes is crucial for their mental health and success in their respective sports. It is important to note that the effectiveness of problem-focused coping, mindfulness, and social support may vary depending on the individual and the situation. It is also important to consider that the relationship between psychological resilience and stress is complex and multifaceted, and there may be other factors that contribute to an individual's ability to cope with stress. Further research is needed to fully understand the limitations and effectiveness of different coping strategies and support systems for managing stress and enhancing psychological resilience.

# **Future Research And Limitations**

There are some limitations that need to be considered while interpreting the findings of the present study. The participants in the study may not be representative of the entire population of student athletes, which can limit the generalizability of the findings. The study relies on self-report measures, (questionnaires and interviews) which are subject to biases, including social desirability bias or recall bias. This could affect the accuracy and reliability of the data collected. The study may explore relationships between variables, but establishing causality and the direction of the relationships can be challenging. It may be difficult to determine whether psychological resilience, coping styles, mindfulness, or social support influence stress levels in student athletes, or if stress levels affect these variables. The study uses a cross-sectional design, it captures data at a single point in time, which limits the ability to draw conclusions about the causal relationships over time. Longitudinal designs that track participants over an extended period can provide more robust findings.

Future research on resilience in athletes should adopt multifaceted approaches that consider individual, social, and contextual factors. By addressing these areas, researchers can contribute to a comprehensive understanding of resilience and its significant impact on athlete performance and mental health. Conducting longitudinal studies to track the development of resilience over time in athletes can provide insights into how various life stages, training environments, and competitive experiences influence resilience. Designing and testing targeted interventions aimed at enhancing resilience is essential. Research could focus on specific techniques like mindfulness training and cognitive-behavioral strategies to evaluate their effectiveness in improving resilience. Exploring resilience across a diverse range of athlete populations, including variations in sports, ages, and cultural backgrounds, can lead to a deeper understanding of how contextual factors shape resilience. Investigating the neurological underpinnings of resilience through neuroimaging and physiological measures can help identify brain regions and biomarkers associated with resilient behaviors. Examining the role of technology, such as wearable devices and mental health apps, in monitoring and promoting resilience is critical. Research could explore how these tools enhance training, recovery, and psychological support. Integrating resilience

measures with performance metrics to explore the relationship between resilience and athletic outcomes can help establish the practical importance of resilience in competitive settings.

**Data Availability Statement:** The datasets generated for this study are available on request to the corresponding author. The data are not publicly available due to their containing information that could compromise the privacy of research participants.

**Ethics Statement:** This study was carried out in accordance with the recommendations of "Anadolu University Ethics Committee" with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the "Anadolu University Ethics Committee."

Author Contributions: EK conceived the research idea, structured and drafted the manuscript, analyzed the data, edited the manuscript EK and AAC give feed backs edited the manuscript, and made comments on the final version.

APPENDIX Qualitative Interview Questions

#### INTRODUCTORY QUESTIONS

1. Could you briefly introduce yourself?

- **Clarifying Questions**:
  - What is your sport discipline?
  - How many years have you been practicing this sport?
  - What is your current competitive status as an athlete?

(The questions will start according to the situation as team or individual sport, depending on the athlete's sport type)

#### **RESEARCH QUESTIONS**

2. What kinds of challenges do you experience as an athlete in the sports field?

- Clarifying Questions:
  - What kinds of difficulties or challenges do you generally encounter in your sports life?
  - What stress factors do you experience as an athlete?
- 3. As a student-athlete, what are the factors causing these challenges? / In your opinion, what factors are behind these difficulties?
  - Clarifying Questions:
  - What are the factors related to yourself?
  - What personal traits are involved?
  - What challenges do you face related to being a woman?
  - ♣ What are the environmental factors arising from situations beyond your control?
  - What challenges arise from being a team athlete?
  - What are the challenges of doing individual sports?
  - What are the difficulties of being a student-athlete?

4. How do you overcome these challenges? What do you do to deal with these difficulties?

#### • Clarifying Questions:

How do you solve these challenges when you manage to overcome them? What strategies do you use?

• What do you do when you cannot overcome these challenges? What methods have you tried that did not give you the desired results?

- ♣ What strategies do you use when you cannot overcome these difficulties?
- 5. From whom do you receive support in overcoming these challenges?

- Clarifying Questions:
  - Social support sources (teammates, friends, coach, family)
  - What level of support do you receive from the people you get help from?
- 6. Do you have an experience where you said, "I rose from my ashes. Now I am better than ever"? Can you describe this experience?
- 7. In your opinion, what are the characteristics of an athlete who overcomes challenges? / When you imagine a successful athlete who overcomes difficulties, what kind of profile do you envision?
- 8. What do you do to focus on competitions? What do you do to stay in the moment during a competition? / What do you do to fully immerse yourself in the competition?
- 9. Lastly, is there anything you would like to add about yourself and your experiences beyond what you have shared so far?

#### REFERENCES

- Ahern, N. R., Kiehl, E. M., Lou Sole, M., & Byers, J. (2006). A review of instruments measuring resilience. *Issues in comprehensive Pediatric nursing*, 29(2), 103-125.
- Allen, A. B., & Leary, M. R. (2010). Self-Compassion, stress, and coping. Social and personality psychology compass, 4(2), 107-118.
- Alsentali, A. M., & Anshel, M. H. (2015). Relationship between Internal and External Acute Stressors and Coping Style. *Journal of Sport Behavior*, 38(4).
- Amirkhan, J. H. (1990). A factor analytically derived measure of coping: The Coping Strategy Indicator. *Journal of personality and social psychology*, 59(5), 1066.
- Andrews, G., Tennant, C., Hewson, D. M., & Vaillant, G. E. (1978). Life event stress, social support, coping style, and risk of psychological impairment. *Journal of Nervous* and Mental Disease.
- Anshel, M. H., & Sutarso, T. (2007). Relationships between sources of acute stress and athletes' coping style in competitive sport as a function of gender. *Psychology of Sport and Exercise*, 8(1), 1-24.
- Anshel, M. H., Williams, L. R. T., & Williams, S. M. (2000). Coping style following acute stress in competitive sport. *The Journal of Social Psychology*, 140(6), 751-773.
- Anshel, M., & Anderson, D. (2002). Coping with acute stress in sport: Linking athletes' coping style, coping strategies, affect, and motor performance. *Anxiety, Stress & Coping*, 15(2), 193-209.
- Armstrong, S., & Oomen-Early, J. (2009). Social connectedness, self-esteem, and depression symptomatology among collegiate athletes versus nonathletes. *Journal of American College Health*, 57(5), 521-526.
- Arnold, R., Fletcher, D., & Daniels, K. (2023). Understanding the sources and impact of stress in sport: A qualitative review. Psychology of Sport and Exercise, 60, 101-115.
- Aspinwall, L. G., & Taylor, S. E. (1992). Modeling cognitive adaptation: A longitudinal investigation of the impact of individual differences and coping on college adjustment and performance. *Journal of personality and social psychology*, 63(6), 989.
- Aysan, F. (1988). Lise öğrencilerinin stres yaşantılarında kullandıkları başaçıkma stratejilerinin bazı değişkenler açısından incelenmesi. *Yayınlanmamış Doktora Tezi*.
- Azizi, M. (2011). Effects of doing physical exercises on stress-coping strategies and the intensity of the stress experienced by university students in Zabol, Southeastern Iran. Procedia-Social and Behavioral Sciences, 30, 372-375.
- Beiter, R., Nash, R., McCrady, M., Rhoades, D., Linscomb, M., Clarahan, M., & Sammut, S. (2015). The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *Journal of affective disorders*, 173, 90-96.

- Bentler, P. M. (1990). Comparative fit indexes in structural models. Psychological bulletin, 107(2), 238.
- Ben-Zur, H. (2009). Coping styles and affect. International Journal of Stress Management, 16(2), 87.
- Berman, W. H., & Sperling, M. B. (1991). Parental attachment and emotional distress in the transition to college. *Journal of youth and adolescence*, 20(4), 427-440.
- Bernier, M., Thienot, E., Codron, R., & Fournier, J. F. (2009). Mindfulness and acceptance approaches in sport performance. *Journal of clinical sport psychology*, 3(4), 320-333.
- Bluth, K., & Eisenlohr-Moul, T. A. (2017). Response to a mindful self-compassion intervention in teens: A within-person association of mindfulness, self-compassion, and emotional well-being outcomes. *Journal of Adolescence*, 57, 108-118.
- Brennan, N. (2001). Reporting intellectual capital in annual reports: evidence from Ireland. Accounting, Auditing & Accountability Journal.
- Bromley, S. J., Drew, M. K., Talpey, S., McIntosh, A. S., & Finch, C. F. (2018). A systematic review of prospective epidemiological research into injury and illness in Olympic combat sport. *British journal of sports medicine*, 52(1), 8-16.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of personality and social psychology*, 84(4), 822.
- Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour research and therapy*, 44(4), 585-599.
- Chandler, G. E., Kalmakis, K. A., Chiodo, L., & Helling, J. (2020). The efficacy of a resilience intervention among diverse, at-risk, college athletes: a mixed-methods study. Journal of the American Psychiatric Nurses Association, 26(3), 269-281.
- Cederblad, M., Dahlin, L., Hagnell, O., & Hansson, K. (1995). Intelligence and temperament as protective factors for mental health. A cross-sectional and prospective epidemiological study. *European archives of psychiatry and clinical neuroscience*, 245(1), 11-19.
- Chang, S. K., Tominaga, G. T., Wong, J. H., Weldon, E. J., & Kaan, K. T. (2006). Risk factors for water sports-related cervical spine injuries. *Journal of Trauma and Acute Care Surgery*, 60(5), 1041-1046.
- Chavers, D. J. (2013). Relationships between spirituality, religiosity, mindfulness, personality, and resilience.
- University of South Alabama.
- Cho, H., Yi Tan, H., & Lee, E. (2020). Importance of perceived teammate support as a predictor of student-
- athletes' positive emotions and subjective well-being. International Journal of Sports Science & Coaching, 15(3), 364-374.
- Ciarrochi, J., Deane, F. P., & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and individual differences*, 32(2), 197-209.
- Clark, V. L. P., & Ivankova, N. V. (2015). *Mixed methods research: A guide to the field* (Vol. 3). Sage publications.
- Clarke, V., & Braun, V. (2018). Using thematic analysis in counselling and psychotherapy research: A critical reflection. *Counselling and Psychotherapy Research*, 18(2), 107-110.
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences. Second Edition. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological bulletin*, 98(2), 310.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of health and social behavior, 385-396.
- Cohen, S., Underwood, L. G., & Gottlieb, B. H. (Eds.). (2000). Social support measurement and intervention: A guide for health and social scientists. Oxford University Press.

- Collins, D., & MacNamara, Á. (2012). The rocky road to the top. Sports medicine, 42(11), 907-914.
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and anxiety*, 18(2), 76-82.
- Corbillon, F., Crossman, J., & Jamieson, J. (2008). Injured athletes' perceptions of the social support provided by their coaches and teammates during rehabilitation. *Journal of Sport Behavior*, 31(2), 93.
- Côté, J. (1999). The influence of the family in the development of talent in sport. *The sport psychologist*, 13(4), 395-417.
- Creswell, J. W. (2014). A concise introduction to mixed methods research. SAGE publications.
- Csikszentmihalyi, M., Rathunde, K. R., & Whalen, S. (1993). Talented teenagers: A longitudinal study of their development. Cambridge University Press.
- Davidson, C. L., Wingate, L. R., Rasmussen, K. A., & Slish, M. L. (2009). Hope as a predictor of interpersonal suicide risk. *Suicide and Life-Threatening Behavior*, 39(5), 499-507.
- Day, A. L., & Livingstone, H. A. (2001). Chronic and acute stressors among military personnel: do coping styles buffer their negative impact on health?. *Journal of occupational health psychology*, 6(4), 348.
- DeFreese, J. D., & Smith, A. L. (2021). Social support, stress, and burnout in athletes: A meta-analytic review. Psychology of Sport and Exercise, 53, 101-114.
- DiBartolo, P. M., & Shaffer, C. (2002). A comparison of female college athletes and nonathletes: Eating disorder symptomatology and psychological well-being. *Journal of Sport and Exercise Psychology*, 24(1), 33-41.
- Dickinson-Delaporte, S. J., & Holmes, M. D. (2011). Threat appeal communications: The interplay between health resistance and cognitive appraisal processes. *Journal of Marketing Communications*, 17(02), 107-125.
- Diedrich, A., Grant, M., Hofmann, S. G., Hiller, W., & Berking, M. (2014). Self-compassion as an emotion regulation strategy in major depressive disorder. *Behaviour research and therapy*, 58, 43-51.
- Downs, A., & Ashton, J. (2011). Vigorous physical activity, sports participation, and athletic identity: implications for mental and physical health in college students. *Journal of Sport Behavior*, 34(3).
- Dumont, M., & Provost, M. A. (1999). Resilience in adolescents: Protective role of social support, coping strategies, self-esteem, and social activities on experience of stress and depression. *Journal of youth and adolescence*, 28(3), 343-363.
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child development*, 82(1), 405-432.
- Dyson, R., & Renk, K. (2006). Freshmen adaptation to university life: Depressive symptoms, stress, and coping. *Journal of clinical psychology*, 62(10), 1231-1244.
- Eccles, J. S., & Harold, R. D. (1991). Gender differences in sport involvement: Applying the Eccles' expectancy- value model. *Journal of applied sport psychology*, *3*(1), 7-35.
- Eccles, J. S., Jacobs, J. E., & Harold, R. D. (1990). Gender role stereotypes, expectancy effects, and parents' socialization of gender differences. *Journal of social issues*, 46(2), 183-201.
- Eisenberg, D., Gollust, S. E., Golberstein, E., & Hefner, J. L. (2007). Prevalence and correlates of depression, anxiety, and suicidality among university students. *American journal* of orthopsychiatry, 77(4), 534-542.
- Eker, D., & Arkar, H. (1995). Perceived social support: psychometric properties of the MSPSS in normal and pathological groups in a developing country. *Social psychiatry and psychiatric epidemiology*, 30(3), 121-126.
- Eskin, M., Harlak, H., Demirkiran, F., & Dereboy, Ç. (2013). The adaptation of the perceived

stress scale into Turkish: a reliability and validity analysis. In *New Symp J* (Vol. 51, No. 3, pp. 132-140).

- Etzel, E. F. (2006). Understanding and promoting college student-athlete health: Essential issues for student affairs professionals. *Naspa Journal*, *43*(3), 518-546.
- Eubank, M., & Gilbourne, D. (2003). 15 Stress, performance and motivation theory. *Science and soccer*, 214.
- Fletcher, D., & Hanton, S. (2003). Sources of organizational stress in elite sports performers. *The sport psychologist*, 17(2), 175-195.
- Fletcher, D., & Sarkar, M. (2012). A grounded theory of psychological resilience in Olympic champions. *Psychology of sport and exercise*, 13(5), 669-678.
- Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. *European psychologist*, 18(1), 12.
- Fletcher, D., & Sarkar, M. (2022). Stress and performance: How athletes perceive and manage stressors. Sport Psychologist, 36(3), 234-250.
- Fletcher, D., & Sarkar, M. (2023). The stress-resilience nexus in sport: A bi-directional relationship. Journal of Applied Sport Psychology, 35(2), 124-139.
- Fletcher, T. B., Benshoff, J. M., & Richburg, M. J. (2003). A systems approach to understanding and counseling college student-athletes. *Journal of College Counseling*, 6(1), 35-45.
- Fransen, K., Vanbeselaere, N., & De Cuyper, B. (2020). The importance of teammates' social support and cohesion for athletes' mental well-being and performance. Psychology of Sport and Exercise, 48, 101656.
- Freeman, P., & Rees, T. (2010). The influence of social support on self-confidence in sport. Journal of Sports Sciences, 28(7), 689-698.
- Folkman, S., & Lazarus, R. S. (1984). *Stress, appraisal, and coping* (pp. 150-153). New York: Springer Publishing Company.
- Freeman, P., Coffee, P., & Rees, T. (2011). The PASS-Q: The perceived available support in sport questionnaire. *Journal of Sport and Exercise Psychology*, 33(1), 54-74.
- Galli, N., & Vealey, R. S. (2008). "Bouncing back" from adversity: Athletes' experiences of resilience. *The sport psychologist*, 22(3), 316-335.
- Gardner, F. L., & Moore, Z. E. (2004). A mindfulness-acceptance-commitment-based approach to athletic performance enhancement: Theoretical considerations. *Behavior therapy*, 35(4), 707-723.
- Gaudreau, P., Blondin, J. P., & Lapierre, A. M. (2002). Athletes' coping during a competition: relationship of coping strategies with positive affect, negative affect, and performance– goal discrepancy. *Psychology of Sport and Exercise*, 3(2), 125-150.
- Gaudreau, P., Nicholls, A. & Levy, A. R. (2010). The Ups and Downs of Coping and Sport Achievement: An Episodic Process Analysis of Within-Person Associations. Journal of Sport & Exercise Psychology, 2010, 32, 298-311.
- George, D., & Mallery, P. (2016). Descriptive statistics. In *IBM SPSS statistics 23 step by step* (pp. 126-134).

- Glick, I. D., Stillman, M. A., Reardon, C. L., & Ritvo, E. C. (2012). Managing psychiatric issues in elite athletes. *The Journal of clinical psychiatry*, 73(5), 640-644.
- Grabbe, L., Nguy, S. T., & Higgins, M. K. (2012). Spirituality development for homeless youth: A mindfulness meditation feasibility pilot. *Journal of Child and Family Studies*, 21(6), 925-937.
- Guest, A. M. (2008). Reconsidering teamwork: Popular and local meanings for a common ideal associated with positive youth development. *Youth & Society*, 39(3), 340-361.
- Gustafsson, H., Hassmén, P., & Madigan, D. J. (2023). Athlete burnout: A systematic review of stress and recovery interventions. International Review of Sport and Exercise Psychology, 16(3), 235-260.

Routledge.

- Gordon, S., Brown, T., & Green, R. (2023). Resilience and performance: The psychological backbone of elite athletes. Journal of Sports Psychology, 45(2), 123-137.
- Hanton, S., & Jones, G. (1999). The acquisition and development of cognitive skills and strategies: I. Making the butterflies fly in formation. *The sport psychologist*, 13(1), 1-21.
- Hanton, S., Fletcher, D., & Coughlan, G. (2005). Stress in elite sport performers: A comparative study of competitive and organizational stressors. *Journal of sports sciences*, 23(10), 1129-1141.
- Holt, N. L., & Tamminen, K. A. (2010). Moving forward with grounded theory in sport and exercise psychology. *Psychology of sport and exercise*, 11(6), 419-422.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, 6(1), 1-55.
- Humphrey, J. H., Yow, D. A., & Bowden, W. W. (2000). Stress in College Athletes: Causes, Consequences,
- Coping. Binghamton, NY: The Haworth Half.
- Ivarsson, A., Johnson, U., & Andersen, M. B. (2018). Coping with injury in elite sport: A systematic review of coping strategies and their effectiveness. Sports Medicine, 48(4), 721-730.
- Ivarsson, A., Johnson, U., & Andersen, M. B. (2021). Psychological factors in sports injury rehabilitation: The role of social support and mental strategies. Journal of Sport Rehabilitation, 30(2), 253-262.
- Johnson, J. H., & Sarason, I. G. (1978). Life stress, depression and anxiety: Internal-external control as a moderator variable. *Journal of psychosomatic research*, 22(3), 205-208.
- Jones, M. V., Rhind, D. J., & Piggott, D. (2023). Competitive stress in elite athletes: Implications for performance and mental health. Journal of Applied Sport Psychology, 35(2), 140-155.
- Jones, M., & Parker, J. (2021). Mindfulness and athletic performance under pressure: The role of psychological flexibility. Journal of Sport Behavior, 42(2), 150-164.
- Jouper, J., & Gustafsson, H. (2013). Mindful recovery: A case study of a burned-out elite shooter. *The Sport Psychologist*, 27(1), 92-102.
- Jowett, S., & Timson-Katchis, M. (2005). Social networks in sport: Parental influence on the coach-athlete relationship. *The Sport Psychologist*, 19(3), 267-287.
- Joyce, P. Y., Smith, R. E., & Vitaliano, P. P. (2005). Stress-resilience, illness, and coping: a person-focused investigation of young women athletes. *Journal of behavioral medicine*, 28(3), 257-265.
- Kabat-Zinn, J. (2003). Mindfulness-based interventions in context: past, present, and future. Clinical psychology: Science and practice, 10(2), 144-156.
- Kara, E., Türküm, A. S., & Turner, M. J. (2023). The effects of Rational Emotive Behaviour Therapy (REBT)
- group counselling program on competitive anxiety of student-athletes. Journal of Rational-Emotive & Cognitive-Behavior Therapy, 41(2), 362-379.
- Karaırmak, Ö. (2010). Establishing the psychometric qualities of the Connor–Davidson Resilience Scale (CD-RISC) using exploratory and confirmatory factor analysis in a trauma survivor sample. *Psychiatry research*, 179(3), 350-356.
- Kariv, D., & Heiman, T. (2005). Task-oriented versus emotion-oriented coping strategies: The case of college students. *College Student Journal*, 39(1), 72-85.
- Kellmann, M., Beckmann, J., & Wiewelhove, T. (2022). Recovery and performance in sport: The role of sleep and stress management. Sports Medicine, 52(6), 1135-1152.
- Kesimci, A., Göral, F. S., & Gençöz, T. (2005). Determinants of stress-related growth: Gender, stressfulness of the event, and coping strategies. *Current Psychology*, 24(1), 68-75.

- Kowalski, K.C., Crocker, P.R.E., Hoar, S.D., & Niefer, C.B. (2005). Adolescents' control beliefs and coping with stress in sport. International Journal of Sport Psychology, 36, 257-272.
- Kruger, L. J., Bernstein, G., & Botman, H. (1995). The relationship between team friendships and burnout among residential coun-selors. The Journal of social psychology, 135(2), 191-201
- Lewko, J. H., & Ewing, M. E. (1980). Sex differences and parental influence in sport involvement of children. *Journal of Sport and Exercise Psychology*, 2(1), 62-68.
- Lightsey Jr, O. R. (2006). Resilience, meaning, and well-being. The counseling psychologist, 34(1), 96-107.
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural equation modeling*, 9(2), 151-173.
- Lu, F. J. H., Hsu, Y. W., Chan, Y. S., Cheen, J. R., & Kao, K. T. (2012). Assessing college student-athletes' life stress: initial measurement development and validation. *Measurement* in Physical Education and Exercise Science, 16(4), 254-267.
- Lund, H. G., Reider, B. D., Whiting, A. B., & Prichard, J. R. (2010). Sleep patterns and predictors of disturbed sleep in a large population of college students. *Journal of adolescent health*, 46(2), 124-132.
- MacCallum, R. C., & Hong, S. (1997). Power analysis in covariance structure modeling using GFI and AGFI. *Multivariate Behavioral Research*, 32(2), 193-210.
- Machida, M., Irwin, B., & Feltz, D. (2013). Resilience in competitive athletes with spinal cord injury: The role of sport participation. *Qualitative health research*, 23(8), 1054-1065.
- Mak, K. K., Jeong, J., Lee, H. K., & Lee, K. (2018). Mediating effect of internet addiction on the association between resilience and depression among Korean University students: a structural equation modeling approach. *Psychiatry investigation*, 15(10), 962.
- Matlin, M. (2012). The Psychology of Women (7th edition). Thomson Wadsworth
- Mayordomo, T., Viguer, P., Sales, A., Satorres, E., & Meléndez, J. C. (2016). Resilience and coping as predictors of well-being in adults. *The Journal of Psychology*, 150(7), 809-821.
- McKay, J., Niven, A. G., Lavallee, D., & White, A. (2008). Sources of strain among elite UK track athletes. The Sport Psychologist, 22, 143-163.
- Meijen, C., Turner, M., Jones, M. V., Sheffield, D., & McCarthy, P. (2020). A theory of challenge and threat states in athletes: A revised conceptualization. *Frontiers in psychology*, 11, 126.
- Mellalieu, S. D., Neil, R., Hanton, S., & Fletcher, D. (2009). Competition stress in sport performers: Stressors experienced in the competition environment. *Journal of sports sciences*, 27(7), 729-744.
- Mellalieu, S., Shearer, D. A., & Shearer, C. (2013). A preliminary survey of interpersonal conflict at major games and championships. *The Sport Psychologist*, 27(2), 120-129.
- Mellalieu, S., Shearer, D. A., & Shearer, C. (2013). A preliminary survey of interpersonal conflict at major games and championships. *The Sport Psychologist*, 27(2), 120-129.
- Mitchell, I., Evans, L., Rees, T., & Hardy, L. (2014). Stressors, social support, and tests of the buffering hypothesis: Effects on psychological responses of injured athletes. *British journal of health psychology*, 19(3), 486-508.
- Moen, F., Federici, R. A., & Abrahamsen, F. (2015). Examining possible Relationships between mindfulness, stress, school-and sport performances and athlete burnout. *International Journal of Coaching Science*, 9(1).
- Monda, S. J., Etzel, E. F., Shannon, V. R., & Wooding, C. B. (2015). Understanding the academic experiences of freshman football athletes: Insight for sport psychology professionals. *Athletic Insight*, 7(2), 115-128.
- Moore, Z. E. (2009). Theoretical and empirical developments of the Mindfulness-Acceptance-Commitment (MAC) approach to performance enhancement. *Journal of Clinical Sport Psychology*, 3(4), 291-302.

- Morgan, P. B., Fletcher, D., & Sarkar, M. (2019). Developing team resilience: A season-long study of psychosocial enablers and strategies in a high-level sports team. *Psychology of Sport and Exercise*, 45, 101543.
- Morgan, P. B., Fletcher, D., & Sarkar, M. (2013). Defining and characterizing team resilience in elite sport. Psychology of sport and exercise, 14(4), 549-559.
- Morgan, P. B., Fletcher, D., & Sarkar, M. (2015). Understanding team resilience in the world's best athletes: A case study of a rugby union World Cup winning team. *Psychology of sport* and exercise, 16, 91-100.
- Morgan, P. B., Fletcher, D., & Sarkar, M. (2017). Recent developments in team resilience research in elite sport. *Current Opinion in Psychology*, 16, 159-164.
- Nicholls, A. R., Holt, N. L., Polman, R. C., & Bloomfield, J. (2006). Stressors, coping, and coping effectiveness among professional rugby union players. *The Sport Psychologist*, 20(3), 314-329.
- Nicholls, A., & Thelwell, R. (2010). Coping conceptualized and unraveled. In *Coping in sport: theory, methods and related constructs* (pp. 3-14). Nova Science Publishers.
- Nicholls, A. R., & Polman, R. (2022). Resilience and performance under pressure: How athletes perceive and respond to stress. International Journal of Sport Psychology, 41(3), 210-227.
- Nicholls, A. R., Levy, A. R., & Perry, J. L. (2020). Gender differences in coping strategies and well-being in athletes. International Journal of Sport and Exercise Psychology, 18(2), 141-154.
- Nicholls, A. R., Taylor, N. J., & Carroll, S. (2016). The influence of coping on performance in sports: A meta- analytic review. Psychology of Sport and Exercise, 25, 36-42.
- O'Neil, J. W., & Steyn, B. J. (2007). Strategies used by South African non-elite athletes to cope with the environmental stressors associated with endurance events. South African Journal for Research in Sport, Physical Education and Recreation, 29(2), 99-107.
- Özyeşil, Z., Arslan, C., Kesici, Ş., & Deniz, M. E. (2011). Bilinçli farkındalık ölçeği'ni Türkçeye uyarlama çalışması. *Eğitim ve Bilim*, *36*(160).
- Papathomas, A., & Lavallee, D. (2012). Narrative constructions of anorexia and abuse: An athlete's search for meaning in trauma. *Journal of loss and trauma*, 17(4), 293-318.
- Pensgaard, A. M., & Roberts, G. C. (2003). Achievement goal orientations and the use of coping strategies among Winter Olympians. *Psychology of sport and Exercise*, 4(2), 101-116.
- Petitpas, A. J., Cornelius, A. E., Van Raalte, J. L., & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. *The sport psychologist*, 19(1), 63-80.
- Polizzi, C., Gautam, A., & Lynn, S. J. (2018). Trait mindfulness: A multifaceted evaluation. Imagination, Cognition and Personality, 38(2), 106-138.
- Pritchard, M., & Wilson, G. (2005). Comparing sources of stress in college student athletes and non-athletes. *Athletic Insight: The Online Journal of Sports Psychology*, 5(1), 1-8.
- Rumbold, J. L., Fletcher, D., & Daniels, K. (2020). The effectiveness of mindfulness interventions in promoting psychological resilience in athletes. Sport, Exercise, and Performance Psychology, 9(1), 34-50.
- Rosado, A., Santos, A. M. D., & Guillén García, F. (2012). Estrategias de coping en jugadores de baloncesto de alta competición. *Revista iberoamericana de psicología del ejercicio y el* deporte.
- Rosenfeld, L. B., Richman, J. M., & Hardy, C. J. (1989). Examining social support networks among athletes: Description and relationship to stress. *The sport psychologist*, 3(1), 23-33.
- Ryff, C. D., & Singer, B. (2003). Flourishing under fire: Resilience as a prototype of challenged thriving. In C.

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- L. M. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (p. 15-36). American Psychological Association.
- Salmon, P. G., Sephton, S. E., & Dreeben, S. J. (2011). Mindfulness-based stress reduction. Acceptance and mindfulness in cognitive behavior therapy: Understanding and applying the new therapies, 132-163.
- Sarkar, M., & Fletcher, D. (2014a). Ordinary magic, extraordinary performance: Psychological resilience and thriving in high achievers. Sport, Exercise, and Performance Psychology, 3(1), 46.
- Sarkar, M., & Fletcher, D. (2014b). Psychological resilience in sport performers: a review of stressors and protective factors. *Journal of sports sciences*, 32(15), 1419-1434.
- Sant, B., Nesti, M. S., & Eubank, M. (2022). The Effect of Mindfulness Training on Sport Injury Anxiety During Rehabilitation. MCAST Journal of Applied Research and Practice, 6(3), 73-87.
- Sant, Bernice. (2015). The effect of mindfulness training on resilience in elite young athletes.. 10.13140/ RG.2.1.5138.6969.
- Sedlacek, W. E., & Adams-Gaston, J. (1992). Predicting the academic success of student-athletes using SAT and noncognitive variables. *Journal of Counseling & Development*.
- Settles, I. H., Sellers, R. M., & Damas Jr, A. (2002). One role or two?: The function of psychological separation in role conflict. *Journal of Applied Psychology*, 87(3), 574.
- Schinke, R. J., Stambulova, N. B., Si, G., & Moore, Z. (2018). International society of sport psychology position stand: Athletes' mental health, performance, and development. International Journal of Sport and Exercise Psychology, 16(6), 622-639.
- Soper, D.S. (2022). A-priori Sample Size Calculator for Structural Equation Models [Software].
- Spector, P. E., & Brannick, M. T. (2009). Common method variance or measurement bias? The problem and possible solutions. *The Sage handbook of organizational research methods*, 346-362.
- Stirling, A. E., & Kerr, G. A. (2008). Defining and categorizing emotional abuse in sport. European Journal of Sport Science, 8(4), 173-181.
- Struthers, C. W., Perry, R. P., & Menec, V. H. (2000). An examination of the relationship among academic stress, coping, motivation, and performance in college. *Research in higher education*, 41(5), 581-592.
- Swann, C., Moran, A., & Piggott, D. (2015). Defining elite athletes: Issues in the study of expert performance in sport psychology. *Psychology of Sport and Exercise*, 16, 3-14.
- Tamminen, K. A., Holt, N. L., & Neely, K. C. (2013). Exploring adversity and the potential for growth among elite female athletes. *Psychology of sport and exercise*, 14(1), 28-36.
- Tamminen, K. A., Sabiston, C. M., & Crocker, P. R. (2023). Social support and coping in athletes: A review of current research. Journal of Sport Behavior, 42(2), 145-160.
- Thelwell, R. C., Weston, N. J., & Greenlees, I. A. (2007). Batting on a sticky wicket: Identifying sources of stress and associated coping strategies for professional cricket batsmen. *Psychology of Sport and Exercise*, 8(2), 219-232.
- Thompson, L., & Kaufman, K. (2023). Gender differences in mindfulness outcomes among athletes: Implications for tailored interventions. Psychology of Sport and Exercise, 64, 101-116.
- Unger, R. K., & Crawford, M. E. (1992). Women and gender: A feminist psychology. Temple University Press.
- Van Breda, A. D. (2001). Resilience theory: A literature review. South African Military Health Service, Military Psychological Institute. Social Work Research & Development..
- VanYperen, N. W. (1995). Interpersonal stress, performance level, and parental support: A longitudinal study among highly skilled young soccer players. *The Sport Psychologist*, 9(2), 225-241.
- Wayne Hurr (2011) Counseling and Psychological Services for College Student-Athletes, Edward F. Etzel (Ed.), Journal of College Student Psychotherapy, 25: 3, 269-273.

- Weiss, M. R., Smith, A. L., & Davis, L. (2023). Social support and resilience: How athlete networks buffer stress. Journal of Sport Sciences, 41(2), 145-160.
- Westland, J.C. (2010). Lower bounds on sample size in structural equation modeling. Electronic Commerce Research and Applications, 9(6), 476-487.
- White, G. A. (2008). Levels of stress and mechanisms of coping among male freshman athletes. Unpublished Master thesis, West Virginia University.
- Yusko, D. A., Buckman, J. F., White, H. R., & Pandina, R. J. (2008). Alcohol, tobacco, illicit drugs, and performance enhancers: A comparison of use by college student athletes and nonathletes. *Journal of american college health*, 57(3), 281-290.
- Zimet, G. D., Powell, S. S., Farley, G. K., Werkman, S., & Berkoff, K. A. (1990). Psychometric characteristics of the multidimensional scale of perceived social support. *Journal of personality assessment*, 55(3-4), 610-617.

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