The Relationship Between Trait Resilience and Competitive State Anxiety Level: The Mediation Effect of Competition (Other-based Goals)

Aylin Aydin

Master's Thesis - Talent Development and Creativity

S5085950

August 2025

Department of Psychology

University of Groningen

Daily Academic Supervisor: Nico W. van Yperen

Second Academic Supervisor: Ruud den Hartigh

Abstract

Competition in sport can elicit both motivational goals and psychological stress. This study examined whether other-approach and other-avoidance goals mediate the relationship between trait resilience and cognitive and somatic anxiety in athletes. Specifically, it was hypothesized that athletes higher in trait resilience would report more other-approach goals and fewer other-avoidance goals. In turn, other-approach goals were anticipated to predict lower levels of cognitive and somatic anxiety, whereas other-avoidance goals were expected to predict higher levels. Nighty-three competitive athletes (M = 23.67, 49.5% female) completed self-report measures assessing trait resilience, other-based goals, and competitive state anxiety. Mediation analyses demonstrated that trait resilience was linked to more other-approach and fewer other-avoidance goals; in turn, these goals were associated with lower and higher anxiety, respectively. However, only other-avoidance goals significantly mediated the link between trait resilience and somatic anxiety. The findings indicate that the types of goals athletes adopt play a significant role in shaping their resilience as well as their cognitive and somatic anxiety in competitive settings.

Keywords: Trait-resilience, other-based goals, cognitive anxiety, somatic anxiety, competition

The Relationship Between Trait Resilience and Competitive State Anxiety: The Mediation Effect of Competition (Other-based Goals)

Competition is a central part of sport, influencing both how athletes perform and how they feel under pressure. While some athletes may perceive competition as a motivating challenge, others may perceive the same event as threatening (Litwic-Kamińska, 2020). In their meta-analysis, Murayama and Elliot (2012) found that, on average, competition has a neutral effect on performance. Their model explains this effect through two distinct motivational processes: *other-approach goals* and *other-avoidance goals*. Other-approach goals involve striving to outperform others, while other-avoidance goals reflect the desire to avoid underperforming compared to others (Mascret et al., 2015). Competition tends to enhance performance when it fosters other-approach goals, but may impair it when it triggers other-avoidance goals (Elliot et al., 2011).

Achievement goals not only guide athletes' behavior but also influence their emotional experience in competitive situations (Elliot & Dweck, 2005). This is particularly important in sport, where the type of goal an athlete sets can shape the level of anxiety they experience. Competitive State Anxiety (CSA), defined as the situational anxiety, both cognitive and somatic anxiety, that athletes experience before or during the competition (Martens et al., 1990). Cognitive anxiety is associated with negative expectations, performance concerns, difficulty concentrating, interrupted attention, and the possibility of failure, whereas somatic anxiety is characterized by physiological consequences such as sweating, tense muscles, shortness of breath, elevated heart rate, and dizziness (Martens et al., 1990).

However, not all athletes respond to competition in the same way. Some view it as a manageable challenge, whereas others experience heightened anxiety. These contrasting reactions highlight the potential role of individual differences in shaping athletes' responses to competition. Trait resilience, defined as a stable personal characteristic that enables individuals to cope with adversity and maintain

psychological adjustment even in stressful conditions (Hu et al., 2015), may play an important role in shaping athletes' motivational responses in competitive settings.

To address this aim, the present study tested two parallel mediation models. In these models, trait resilience is the independent variable, other-based goals (approach and avoidance) function as the mediators, and competitive state anxiety (either cognitive or somatic) serves as the outcome. The following section outlines the conceptual foundations of other-based achievement goals and their associations with competitive state anxiety.

Other-based Goals and Competitive State Anxiety

According to the 3x2 Achievement Goals Theory by Elliot et al. (2011), there are different types of achievement goal standards that contribute to individual competence, which can be differentiated along two fundamental dimensions: how it is defined (other-based, self-based, or task-based) and how it is valenced (approach vs. avoidance). These goals can be viewed as strategic tools through which individuals regulate their broader concerns about success and failure (Elliot et al., 2011). In sport, where performance is often public and subject to comparison, these goals play a significant role in shaping athletes' emotional responses (Van Yperen, 2022). In such contexts, athletes are particularly prone to rely on social comparison, making other-based goals especially relevant for understanding athlete motivation (Van Yperen & Leander, 2014).

Furthermore, the Opposing Processes Model (Murayama & Elliot, 2012) proposes that the effects of competition depend on the type of other-based goal it activates. According to the model, competition leads to better outcomes when it promotes other-approach goals, but can lead to negative outcomes when it activates other-avoidance goals. Although the model was originally developed to explain performance effects, the same mechanism could apply to emotional outcomes, including cognitive and somatic anxiety. In terms of emotional outcomes, other-approach goals are viewed as less threatening

and sometimes even beneficial in high-pressure contexts, whereas other-avoidance goals have been associated with negative outcomes, such as diminished self-efficacy, as well as heightened worry and intrusive thoughts (Payne et al., 2007; Elliot & McGregor, 1999; Lee et al., 2003). For example, meta-analyses indicate that approach goals are often related to positive outcomes, including enhanced intrinsic motivation and improved performance (Cury et al., 2002; Lochbaum & Gottardy, 2015; Van Yperen et al., 2014). These findings align with theoretical perspectives that portray other-approach goals pursuit as less threatening, and sometimes even beneficial, in high-pressure contexts (Van Yperen et al., 2009). On the other hand, other-avoidance goals frequently correlate with negative outcomes, such as reduced self-efficacy and poorer performance, as well as heightened worry and intrusive thoughts (Payne et al., 2007; Elliot & McGregor, 1999; Lee et al., 2003). Empirical studies also link other-avoidance goals to cognitive anxiety indicators such as worry and concentration disruption (Morris & Kavussanu, 2009), as well as to somatic anxiety symptoms, including physical tension (Chalabaev et al., 2009; Putwain & Symes, 2012). Hence, other-avoidance goals may undermine mental focus and heighten anxiety symptoms through concerns about failure and social comparison (Van Yperen, 2021).

Overall, these findings point to distinct associations between other-approach and other-avoidance goals and athletes' levels of cognitive and somatic anxiety. Based on the evidence, the study hypothesized the following;

Hypothesis 1A. Other-approach goals are expected to be associated with lower levels of cognitive anxiety and somatic anxiety.

Hypothesis 1B. Other-avoidance goals are expected to be associated with higher levels of cognitive anxiety and somatic anxiety.

The Role of Trait Resilience in Competitive Settings

Although the emotional outcomes of other-based goals have been widely studied (e.g., Chalabaev et al., 2009; Morris & Kavussanu, 2009; Van Yperen et al., 2009), Murayama and Elliot's (2012) model does not address why some athletes are more likely to pursue other-approach goals, whereas others tend toward other-avoidance goals. A possible explanation may lie in individual difference variables such as trait resilience.

Elite athletes are distinguished by their ability to apply and refine psychological skills, enabling them to approach challenges more constructively and cope more successfully with the demands of high-level competition (Dieffenbach & Moffett, 2002). Therefore, research on psychological resilience is essential in sport, as athletes are regularly required to face various forms of pressure in order to reach and maintain elite performance levels (Sarkar & Fletcher, 2013). According to Fletcher and Sarkar (2016), psychological resilience is the capacity to draw on individual attributes to endure and cope effectively with pressure. Psychological resilience has been shown to play a protective role in high-pressure situations, as athletes with greater resilience tend to manage anxiety more effectively and maintain stable performance (Mahato & Thander, 2023). Martin-Krumm et al. (2003) found that participants with a more optimistic and resilient style performed better following failure feedback, while those with a more pessimistic perspective did not improve. Furthermore, resilient athletes tend to possess psychological resources such as optimism, confidence, and perceived control that support adaptation to high-pressure demands (Sarkar & Fletcher, 2014). In their review, Sarkar and Fletcher (2014) identified traits as protective factors shielding athletes from the adverse impacts associated with anxiety. These traits enable athletes to perceive competitive pressure as a challenge rather than a threat, thereby reducing the psychological consequences of competition (Fletcher & Sarkar, 2012), and foster adaptive motivational patterns, such as adopting other-approach rather than other-avoidance goals.

Studies have examined the relationship between resilience and other-based goals. For instance, Splan (2011) explored the relationship between resilience and achievement goals among university students. Findings show that students with higher resilience were more likely to endorse approach goals and less likely to adopt avoidance goals, suggesting that resilience may lead individuals to adopt goals reflecting an active engagement with challenges. This aligns conceptually with other-approach goals, which involve striving to outperform others and demonstrate competence. Moreover, athletes with higher levels of mental toughness have been found to report stronger endorsement of other-approach goals (Gucciardi, 2010). Since resilience and mental toughness share core abilities such as maintaining or regaining psychological functioning when faced with stressful situations, setbacks, or pressure (Gucciardi et al., 2017), these findings can help inform understanding of how resilient individuals approach competition, particularly in relation to other-based goals.

In addition to its role in other-based goals, resilience has also been studied in relation to anxiety, particularly in competitive and high-pressure settings. Lyu et al. (2022) examined Chinese athletes and found that those with higher levels of trait resilience reported significantly lower anxiety symptoms. Moreover, Trigueros et al. (2020) found that Spanish athletes aged 16 to 26 with higher resilience reported lower levels of anxiety. González-Hernández et al. (2020) examined the relationship between resilience and competitive anxiety among youth athletes from various sports. Their results revealed that athletes with greater resilience tended to report lower levels of worry (cognitive anxiety) and physical symptoms (somatic anxiety) during competition. Importantly, this relationship held across different sports, reinforcing the idea that resilience serves as a stable psychological resource regardless of sporting context. In the educational domain, Lim and Chue (2023) examined the role of achievement goals in the relationship between academic resilience and test anxiety. Individuals with high resilience experienced less test anxiety, but when individuals strongly endorsed other-avoidance goals, anxiety was

higher. This implies that other-avoidance goals may interfere with the psychological benefits typically associated with resilience. Fletcher and Sarkar (2012) highlighted how resilient athletes are more likely to appraise stressors as challenges rather than threats. This challenge appraisal is associated with greater emotional control, motivation, and focus under pressure, which are factors that reduce the likelihood of experiencing anxiety. Overall, these findings reinforce the protective role of trait resilience in competitive contexts, suggesting that resilient athletes are better equipped to manage the psychological and physiological demands of sport performance. Building on this, it is plausible that athletes with high trait resilience adopt more adaptive goals in response to competition.

While prior studies have explored associations between resilience and anxiety (González-Hernández et al., 2020; Trigueros et al., 2019; Lyu et al., 2022), the mediating role of other-approach and other-avoidance goals in this relationship remains untested in a sport setting. In fact, there has been limited work investigating, particularly, how trait resilience might predict other-based goals and cognitive and somatic anxiety. Therefore, examining trait resilience as a predictor of other-based goals and, subsequently, of cognitive and somatic anxiety may offer valuable insight into athletes' psychological functioning. Based on this review, the following hypotheses were formulated;

Hypothesis 2. Athletes higher in trait resilience are more likely to adopt other-approach goals and less likely to adopt other-avoidance goals, which in turn predict lower and higher levels of cognitive anxiety (H2A) and somatic anxiety (H2B), respectively.

Method

Power Analyses

A priori power analysis was formulated using G*Power (Faul et al., 2009) to estimate the required sample size for the regression models underlying the mediation analyses. Assuming a medium effect size ($f^2 = .15$), an alpha level of .05, a desired power of .80, and six predictors (trait resilience, two

mediators, and three covariates: age, experience, and gender), the analysis indicated that a minimum of 97 participants was required to detect statistically significant effects. Although the final sample size (N = 93) was slightly below the G*Power recommendation, it was considered adequate for detecting medium to large effects in the proposed mediation models. The power analysis for the model predicting cognitive anxiety with other-approach goals (R^2 = .645; f^2 = 1.82) showed that the achieved power exceeded .99. Similarly, models predicting somatic anxiety with other-avoidance goals (R^2 = .62; f^2 = 1.63) and cognitive anxiety with other-avoidance goals (R^2 = .29; f^2 = 0.41) also exceeded the .95 threshold. The model predicting somatic anxiety with other-approach goals (R^2 = .17; f^2 = 0.20) also reached sufficient power (> .95). Therefore, the achieved sample size of N = 93 was judged sufficient to detect medium to large effects across all tested models.

Participants

Data in this study were collected from 99 competitive athletes. After removing six responses due to missing values, the final sample included 93 participants aged 18 to 33 (M = 23.67, SD = 3.20). The sampling method was convenience-based, and all participants met the following inclusion criteria: (a) currently engaged in competitive sport, (b) at least one year of competitive experience, (c) Turkish-speaking, and (d) provided informed consent. Participation was voluntary, and no financial incentives were offered. The participants were classified as male (50.5.2%, n = 47) or female (49.5%, n = 46). All participants reported that they were actively involved in competitive sports at the time of the study. The average number of years spent in competitive sport was 6.34 (SD = 3.33). Participants represented a range of sports disciplines. Team sports included basketball (29%), football (11.8%), and volleyball (11.8%), while individual sports included swimming (12.9%), sailing (12.9%), tennis (7.5%), equestrian (5.4%), boxing (5.4%), karate (1.1%), running (1.1%), and badminton (1.1%).

The Study Design and Procedure

This study employed a cross-sectional, correlational design to examine whether other-based achievement goals mediate the relationship between trait resilience and competitive state anxiety among athletes. Data were collected using an online survey distributed through Qualtrics, a platform selected for its accessibility and compatibility with smartphones, tablets, and computers. Participants were recruited through various sports clubs, universities, and athletic training centers across Turkey. Coaches and administrators were contacted in advance and provided with information about the study. Eligible athletes received a digital link to participate in the study online, including participant information and an informed consent form. Only the data of those who provided explicit consent were included in the final analysis. Participation could withdraw at any time without any consequence. The survey took approximately 5 to 10 minutes to complete. After providing informed consent, participants were first asked to enter demographic information, including their age, gender, type of sport, and years of competitive experience. This was followed by a series of standardized questionnaires measuring their trait resilience, levels of somatic and cognitive anxiety, and other-based achievement goal valence (approach versus avoidance).

This study was submitted via the fast-track procedure of the Ethics Committee of the Faculty of Behavioral and Social Sciences (EC-BSS) at the University of Groningen. It was deemed exempt from full review as a low-risk study. Relevant documents were registered but not reviewed. The study complies with EC-BSS guidelines and applicable ethical regulations.

To ensure the completeness of the dataset, all survey items were made mandatory. Any participant who failed to complete the survey in its entirety was excluded from the analysis. Responses were automatically recorded and stored anonymously. The data collection period spanned approximately 6 weeks. No identifying information was collected.

Measures

Other-based achievement goals. The 3 × 2 Achievement Goal Questionnaire, extended to the sport domain by Mascret et al. (2015), was used to assess participants' achievement goals. The theoretical foundation for the questionnaire lies in the model by Elliot et al. (2011), which distinguishes between task-based, self-based, and other-based goals, each with approach and avoidance components. In this study, only the subscales measuring other-approach and other-avoidance goals were used. The other-approach goal subscale captures an athlete's desire to outperform others in order to demonstrate competence (e.g., "My goal is to perform better than others"), while the other-avoidance goal subscale reflects the motivation to avoid performing worse than others (e.g., "My goal is to avoid doing worse than others"). Each subscale consists of three items, rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Higher scores indicate a stronger endorsement of the respective goal orientation. The original version of the questionnaire has shown good internal consistency and construct validity across various populations. For the current research, the scale was translated into Turkish by the researcher. In the current sample, both subscales of the other-based goal orientation demonstrated excellent internal consistency. Cronbach's alpha was .89 for other-approach goals and .98 for other-avoidance goals.

Competitive state anxiety was assessed using the Competitive State Anxiety Inventory–2 Revised (CSAI-2R), originally developed by Cox et al. (2003) and grounded in the multidimensional anxiety theory proposed by Martens et al. (1990). The scale comprises three subscales: cognitive anxiety, somatic anxiety, and self-confidence. Participants rate 17 items on a 4-point Likert scale ranging from 1 (*not at all*) to 4 (*very much so*), with higher scores on the anxiety subscales indicating greater competitive anxiety, and higher scores on the self-confidence subscale reflecting greater confidence. For this study, the validated Turkish version revised by Akgönül et al. (2002) was

employed. This culturally adapted version consists of 14 items with a preserved three-factor structure, and has demonstrated good reliability, with Cronbach's alpha values exceeding .70 across subscales in Turkish athlete samples. In line with procedures outlined by Akgönül et al. (2002), composite scores for cognitive and somatic anxiety, respectively, were calculated and averaged. In the current sample, internal consistency was excellent for both the Cognitive Anxiety subscale ($\alpha = .90$, n = 4 items) and the Somatic Anxiety subscale ($\alpha = .88$, n = 5 items) of the CSAI-2R. The self-confidence subscale was excluded as we did not include this variable in our model.

Trait resilience was measured using the Brief Resilience Scale (BRS; Smith et al., 2008), which assesses an individual's capacity to recover from stress or adversity. The scale consists of six items, including three positively worded statements (e.g., "I tend to bounce back quickly after hard times") and three negatively worded statements (e.g., "I have a hard time making it through stressful events"). Responses are provided on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Negatively worded items were reverse-coded, and a higher average score indicates greater resilience. The Turkish adaptation of the BRS, validated by Doğan (2015), was used in this study. In the current sample, internal consistency was adequate, with a Cronbach's alpha of .97 indicating excellent internal consistency.

Data Analysis

All statistical analyses were conducted using IBM SPSS Statistics (Version 27). To test the mediation models, the PROCESS macro (Version 4.3; Hayes, 2018) was used. Before running the main analyses, the data were checked for missing values, outliers, and inconsistencies. Six responses were removed due to missing or invalid data, resulting in a final sample of 93 participants. Age, playing experience, and gender (dummy-coded; male = –1, female = +1) were included as covariates in all mediation analyses to control for their potential influence on the outcome variable. These covariates

were selected based on the evidence from previous studies linking gender, age, and sport experience to competitive anxiety (Jones et al., 1991; Walton et al., 2021; Turkmen et al., 2013)

Results

Descriptive Statistics and Correlations for Study Variables

To compare athletes' cognitive and somatic anxiety levels, a paired-samples t-test was conducted. Results indicated that the mean per-item score for cognitive anxiety ($M = 2.12$, $SD = .64$) was significantly higher than that for somatic anxiety ($M = 1.59$, $SD = .55$), $t(92) = 11.72$, $p < .001$. The effect size was large, Cohen's $d = 1.22$, 95% *CI* [0.95, 1.48], indicating that athletes reported notably more frequent cognitive symptoms than somatic symptoms.

To compare participants' tendency to adopt other-approach and other-avoidance goals, a paired-samples t-test was also conducted. Results showed that participants scored significantly higher on other-approach goals ($M = 5.94$, $SD = 1.30$) than on other-avoidance goals ($M = 4.33$, $SD = 2.06$), $t(92) = 5.45$, $p < .001$. The effect size was moderate, Cohen's $d = .57$, 95% *CI* [.35, .78], suggesting a meaningful difference in goal orientation, with athletes more strongly motivated to outperform others than to avoid being outperformed.

Bivariate Pearson correlation analyses revealed several significant associations among the study variables (see Table 1A). In support of Hypothesis 1A, other-approach goals were negatively correlated with both cognitive anxiety ($r = –.56$, $p < .001$) and somatic anxiety ($r = -.41$, $p < .001$), indicating that athletes who endorsed higher levels of other-approach motivation experienced lower levels of cognitive and somatic anxiety. Conversely, in support of Hypothesis 1B, other-avoidance goals were positively correlated with both cognitive anxiety ($r = .61$, $p < .001$) and somatic anxiety ($r = .48$, $p < .001$), indicating that athletes who focused on avoiding being outperformed reported higher levels of cognitive and somatic anxiety.

Trait resilience was negatively associated with cognitive anxiety ($r = –.74$, $p < .001$) and somatic anxiety ($r = –.59$, $p < .001$). It was positively associated with other-approach goals ($r = .41$, $p < .001$) and negatively related to other-avoidance goals ($r = –.53$, $p < .001$).

Finally, all three covariates, age, experience, and gender, were significantly associated with one or more key variables. Age was negatively correlated with both cognitive anxiety ($r = –.37$, $p < .01$) and somatic anxiety ($r = –.38$, $p < .01$), and positively correlated with trait resilience ($r = .38$, $p < .01$) . Experience was positively associated with trait resilience ($r = .39$, $p < .01$) and negatively associated with cognitive anxiety ($r = –.27$, $p < .01$) and somatic anxiety ($r= –.10$, $p < .01$). Gender, coded as –1 for male and 1 for female, was positively correlated with trait resilience ($r = .42$, $p < .01$) and negatively correlated with both cognitive anxiety ($r = –.30$, $p < .01$) and somatic anxiety ($r = –.34$, $p < .01$), indicating that female athletes reported higher resilience and higher levels of both cognitive and somatic anxiety. Based on these significant relationships, age, experience, and gender were included as covariates in the mediation analyses.

Mediation Analysis

Hypothesis 2 states that athletes with higher trait resilience are more likely to adopt other-approach goals and less likely to adopt other-avoidance goals, which in turn predict lower and higher levels of cognitive anxiety (H2A) and somatic anxiety (H2B), respectively.

To test this hypothesis, two parallel mediation models were estimated separately for cognitive (H2A) and somatic anxiety (H2B). In each model, trait resilience functioned as the independent variable, and either other-approach or other-avoidance goals served as the mediator, and either cognitive or somatic anxiety was included as the dependent variable.

The first parallel mediation model tested whether other-approach and other-avoidance goals mediated the link between trait resilience and cognitive anxiety. The overall model was significant, $R^2 =$

.67, $F(3, 89) = 59.42$, $p < .001$. Trait resilience positively predicted other-approach goals, $B = .10$, $SE = .02$, $t = 4.29$, $p < .001$, 95% *CI* [.05, .14], and negatively predicted other-avoidance goals, $B = –.20$, $SE = .03$, $t = –5.97$, $p < .001$, 95% *CI* [–.26, –.13]. Other-approach goals predicted lower cognitive anxiety, $B = –1.25$, $SE = .34$, $t = –3.72$, $p < .001$, 95% *CI* [–1.92, –.58]; other-avoidance goals predicted higher cognitive anxiety, $B = .70$, $SE = .23$, $t = 3.07$, $p = .003$, 95% *CI* [.25, 1.16]. The indirect effect of trait resilience on cognitive anxiety through other-approach goals was significant, $B = –.12$, *BootSE* = .06, 95% *CI* [–.25, –.04], as was the indirect effect through other-avoidance goals, $B = –.14$, *BootSE* = .05, 95% *CI* [–.24, –.04]. These indirect effects indicate that athletes with higher trait resilience experienced less cognitive anxiety, partly because they are more likely to adopt other-approach goals and less likely to adopt other-avoidance goals. Since trait resilience remained a significant negative predictor of cognitive anxiety ($B = –.60$, $SE = .09$, $t = –6.95$, $p < .001$, 95% *CI* [–.77, –.42]), the results support partial mediation, and accordingly, provide partial support for H2A.

The second parallel mediation model examined whether other-approach and other-avoidance goals mediated the relationship between trait resilience and somatic anxiety. The overall model was significant, $R^2 = .41$, $F(3, 89) = 20.56$, $p < .001$. The same pattern emerged for the prediction of mediators: resilience positively predicted other-approach and negatively predicted other-avoidance goals. The link between other-approach goals and somatic anxiety was marginally significant, $B = –.66$, $SE = .39$, $t = –1.71$, $p < .10$, 95% *CI* [–1.44, .11], which may reflect a meaningful trend given the small sample size. In contrast, other-avoidance goals were a significant predictor of higher somatic anxiety, $B = .53$, $SE = .26$, $t = 2$, $p = .04$, 95% *CI* [.0038, 1.05]. The indirect effect of trait resilience on somatic anxiety through other-approach goals was not significant, $B = –.06$, *BootSE* = .06, 95% *CI* [–.20, .04], whereas the indirect effect through other-avoidance goals was significant, $B = –.10$, *BootSE* = .06, 95% *CI* [–.23, –.02]. Since trait resilience also remained a significant negative predictor of somatic anxiety, *B*

= –.42, *SE* = .10, *t* = –4.25, *p* < .001, 95% *CI* [–.62, –.22], these results indicate that only other-avoidance goals partially mediate the relationship between trait resilience and somatic anxiety. Other-approach goals do not play a significant mediating role in this model, which provides only partial support for H2B.

Discussion

The present study aimed to investigate whether other-approach and other-avoidance goals mediate the relationship between trait resilience and cognitive and somatic anxiety among competitive athletes. It was grounded in the Opposing Process Model by Murayama and Elliot (2012), which proposed that competition elicits both other-approach and other-avoidance goals. Based on prior research (Splan, 2011; Murayama & Elliot, 2012; Stenling et al., 2014; Lim & Chue, 2023), it was anticipated that athletes with higher trait resilience would be more inclined to adopt other-approach goals and less inclined to adopt other-avoidance goals. It is consistent with the idea that resilient individuals tend to interpret stressful situations as challenges rather than threats (Fletcher & Sarkar, 2012), a perspective that may foster other-approach goals. In turn, other-approach goals were expected to be associated with lower levels of cognitive and somatic anxiety, whereas other-avoidance goals were expected to be linked to higher levels. By addressing both cognitive and somatic components of competitive state anxiety, the study aimed to provide a more detailed understanding of how goal orientations and anxiety responses interact in competition.

As expected, the results supported both Hypotheses 1A and 1B. Other-approach goals were linked to lower levels of cognitive and somatic anxiety, whereas other-avoidance goals were linked to higher levels of cognitive and somatic anxiety, respectively. These findings are consistent with earlier research demonstrating that other-approach goals are typically linked to more adaptive responses in stressful contexts, such as reduced anxiety and greater confidence. (e.g., Cury et al., 2002; Chalabaev et

al., 2009; Lochbaum & Gottardy, 2015). Athletes pursuing other-approach goals may perceive competition as an opportunity to demonstrate competence, which can reduce their anxiety symptoms. In contrast, athletes who have other-avoidance goals may become preoccupied with fear of failure and social evaluation, leading to heightened worry and physical tension (Chalabaev et al., 2009; Morris & Kavussanu, 2009; Putwain & Symes, 2012). It indicates that athletes who adopted goals that focus on avoiding failure relative to others may experience greater psychological and physical signs of anxiety (Chalabaev et al., 2009; Putwain & Symes, 2012). This interpretation is supported by Diseth (2015), who found that other-avoidance goals were negatively associated with self-concept and intrinsic motivation. Therefore, they may undermine positive psychological functioning and contribute to maladaptive outcomes like anxiety. The consistency of these patterns across both cognitive and somatic anxiety reinforces the idea that the nature of athletes' social comparison goals plays an important role in shaping their emotional experience during competition. Although both other-approach and other-avoidance goals involve social comparison (Van Yperen, 2022), the underlying motivational focus appears to be a key.

The results of the mediation analyses provided further depth to how other-approach and other-avoidance goals help explain the relationship between trait resilience and anxiety. Athletes with higher trait resilience were more likely to adopt other-approach goals and less likely to adopt other-avoidance goals. As discussed, these achievement goals, in turn, showed opposite relationships with cognitive anxiety. This pattern suggests that athletes with high trait resilience might be better able to frame competition as a challenge, and accordingly, are more likely to adopt other-approach goals. By contrast, athletes with lower trait resilience may view competition through a threat-based perspective, making them more prone to other-avoidance goals that heighten cognitive interference and worry. This distinction is supported by prior studies showing that avoidance goals amplify attention toward potential

mistakes and negative evaluations, which can increase worry and self-doubt (Elliot & Church, 1997; Putwain & Symes, 2012).

At the same time, since trait resilience remained a direct predictor of lower cognitive anxiety, other-based goals only partially explain this relationship. The findings point to the possibility that trait resilience may also operate through other psychological mechanisms. For instance, resilient athletes are more likely to use adaptive coping strategies and maintain focus when facing anxiety, which may help reduce anxious thoughts and worries (Fletcher and Sarkar, 2012; Tamminen et al., 2021). Moreover, resilient athletes are equipped with personal protective factors, including perceived control, motivation, and optimism (Sarkar & Fletcher, 2017), that enable them to manage competitive stress independently of achievement goals. Therefore, other-based goals might serve as one pathway among several through which resilience affects cognitive anxiety. In addition to adopting more adaptive goals, resilient athletes may also possess broader psychological skills that buffer against cognitive anxiety.

The second mediation model, testing Hypothesis 2B, revealed a more constrained pattern of mediation. Resilient athletes tended to report fewer other-avoidance goals, and this decrease in other-avoidance goals partly explains how resilience eases their physical anxiety symptoms. In other words, by worrying less about not doing worse than others, these athletes experience fewer bodily signs of anxiety. This pattern shows that part of the trait resilience's effectiveness lies in shifting focus away from avoiding failure, even though other factors, such as warm-up rituals or breathing exercises, are likely to help reduce somatic anxiety. By contrast, other-approach goals neither predicted somatic anxiety nor mediated the relationship between trait resilience and somatic anxiety. Although there was a small trend, the effect was not enough to draw firm conclusions. Hence, adopting other-approach goals does not explain how trait resilience relates to lower somatic anxiety. These findings suggest that other-approach goals may serve a protective function in competitive settings, particularly for cognitive

symptoms. Approach goals may mainly enhance mental self-regulation, such as attentional control and confidence, rather than physiological symptoms like muscle tension. For example, Putwain and Symes (2012) reported that while avoidance goals predicted both anxiety components, approach goals were primarily linked to reductions in cognitive symptoms, implying that the adaptive function of other-approach goals may lie in their role in enhancing attentional control, reducing worry, and supporting a sense of competence. Athletes may regulate somatic anxiety symptoms through non-motivational mechanisms such as physiological control and pre-performance routines, as described in Fletcher and Sarkar's (2016) review. Moreover, athletes with lower resilience tend to experience higher levels of somatic anxiety symptoms under pressure, indicating that avoidance goals may act as a reflection of broader vulnerabilities. A further explanation for the non-significant mediation model could be that athletes may not clearly associate their motivational orientations with their bodily reactions. Participants might perceive the somatic anxiety items in the questionnaire as overly intense or not fully representative of their typical experiences. Especially among young athletes, limited interoceptive awareness or discomfort in acknowledging physical symptoms may have contributed to the underreporting of symptoms. The partial mediation model implies that while motivational mechanisms partly explain the anxiety-reducing role of trait resilience, other factors such as physiological self-regulation, arousal control, or perceived coping capacity may also be involved.

Taken together, the two parallel mediation models provide new insight into the mechanisms linking trait resilience and competitive state anxiety. The study contributes to the literature by showing that trait resilience contributes to athletes' adoption of other-based goals, which in turn are partially linked to their levels of cognitive and somatic anxiety. Although the mediation effects were only partial, the results suggest that motivational mechanisms may serve as one pathway through which resilience influences athletes' emotional states during competition. This pattern aligns conceptually with the

Opposing Process Model of competition. The present study extends the model to emotional outcomes, demonstrating that the other-based goals activated in a competitive context also impact athletes' competitive state anxiety. In this framework, other-approach goals reflect a challenge-based orientation and were associated with lower cognitive and somatic anxiety, whereas other-avoidance goals aligned with a threat-focused orientation and were linked to heightened cognitive and somatic anxiety. Importantly, the results add a dispositional perspective to the model by identifying trait resilience as a crucial factor in determining which process is more likely to be activated. Resilient athletes may be more inclined to adopt other-approach goals (challenge-oriented process), while less resilient athletes may adopt other-avoidance goals (threat-oriented process). This suggests that trait resilience shapes not only athletes' goal adoption, but also their broader psychological engagement with competition.

Additional findings

In addition to the primary findings, the covariates included in the mediation models, age, gender, and competitive experience, also revealed meaningful patterns, Female athletes reported higher levels of cognitive and somatic anxiety compared to male athletes, which aligns with the prior findings showing that female athletes tend to report higher levels of psychological distress (Walton et al., 2021). Unexpectedly, female athletes also reported higher levels of trait resilience, which contrasts with other studies (Biricik & Sivrikaya, 2020; Patsiaouras, 2021) that found significantly higher levels of resilience in male than in female athletes. Notably, this does not appear to be explained by differences in age. It may instead reflect a specific characteristic of athletes in the current study. One possible explanation is that female athletes in this sample may have developed stronger emotional awareness and interpersonal coping strategies, which are often associated with higher self-reported resilience (Tamminen & Gaudreau, 2014).

Age and competitive experience were both linked to cognitive and somatic anxiety, with older and more experienced athletes reporting lower levels of competitive state anxiety, as well as higher levels of trait resilience. These findings align with the study by Nuetzel (2023) showing that as athletes gain sport experience, they develop more effective coping strategies and better emotional regulation skills. As athletes mature and accumulate more time in competitive settings, they may learn to interpret stressors as challenges rather than threats, leading to reduced anxiety and strengthened resilience.

Strengths and Limitations

The study offers several notable strengths that advance both theory and practice in sport psychology. First, by assessing cognitive and somatic anxiety components of competitive state anxiety, it captures how athletes experience both mental worry and physical tension in competition. Second, using a parallel mediation model allowed us to separate the effects of other-approach and other-avoidance goals while controlling for multiple comparisons, thereby reducing the risk of Type I error. Third, both Competitive State Anxiety and Brief Resilience Scale measures were drawn from well-validated Turkish versions, and the 3x2 Achievement Goal questionnaire was carefully translated and reviewed by a bilingual expert to ensure conceptual accuracy for this sample. Including age, gender, and competitive experience as control variables also helped to rule out simple demographic explanations for our results. Fourth, our sample of 93 athletes from various team and individual sports, aged 18 to 33, supports the idea that these processes apply across different sporting contexts and developmental stages. Importantly, we included age, gender, and competitive experience as covariates in our models, statistically controlling for their potential confounding effects and strengthening internal validity. Finally, by grounding the study in the trait resilience framework alongside the Opposing Processes Model, the study not only advances theoretical understanding but also offers clear, practical strategies.

Importantly, this study also addressed a notable gap in the literature by examining the mediation process linking trait resilience, other-based goals, and competitive state anxiety. While prior research has investigated how resilience relates to anxiety or achievement goals independently, the underlying mechanisms connecting these constructs have seldom been tested in sport-specific contexts. By identifying other-approach and other-avoidance goals as partial mediators, this study offers a more detailed perspective on how resilient athletes regulate stress and anxiety in competitive environments.

While the present study provides new insight into how trait resilience and other-based achievement goals relate to competitive state anxiety, several limitations must be acknowledged to contextualize and interpret the findings accurately. To begin with, the use of a cross-sectional design limits any conclusions about causality or temporal direction among trait resilience, other-based goals, and competitive state anxiety. Although mediation analyses partially supported indirect pathways, particularly for cognitive anxiety, the statistical pathways do not imply temporal precedence. It remains unclear whether trait resilience leads to goal adoption and lower cognitive and somatic anxiety or whether athletes' other-based goal types and competitive state anxiety shape their resilience levels over time. Longitudinal research is needed to clarify how these relationships evolve over time. Additionally, the self-report nature of all measures may have introduced response biases. For instance, athletes may underreport cognitive or somatic anxiety due to stigma or overreport trait resilience due to social desirability, especially in sport environments that value mental toughness. This limitation is particularly relevant for constructs such as cognitive and somatic anxiety and trait resilience, since they rely on subjective introspection and may be influenced by individual differences in emotional awareness and expressiveness. Future studies might benefit from incorporating multi-method approaches, such as psychological indicators of anxiety or third-party ratings, to triangulate findings. Furthermore, the somatic anxiety subscale includes items that describe relatively intense physiological symptoms. These

items may not fully reflect how athletes, especially younger ones, experience somatic anxiety in real-life competition. Some athletes may not identify with such strong physical symptoms, leading to underreporting or restricted variability in responses. This limitation could have reduced the sensitivity of the measure and may partly explain the weaker predictive patterns observed in somatic anxiety. In addition, the study involved a relatively small sample size (N=93) compared to the 97 participants recommended by our G*Power analysis. This may have constrained statistical power, particularly for detecting weaker indirect effects or interactions. While the sample was adequate for the main analyses and yielded several significant pathways, some marginal effects (e.g., other-approach goals on somatic anxiety) may have reached significance in a larger sample. Replicating the findings with a larger sample would allow for more precise estimations and might reveal additional indirect effects.

The sample consisted of young Turkish athletes, which could restrict the generalizability of the findings to other cultures, sport environments, or age groups. Cultural factors may influence how athletes conceptualize achievement, perceive social comparison, and express anxiety. Moreover, even though the two other questionnaires have been validated, the 3x2 Achievement Goals questionnaire was translated by the researcher and not formally validated. Despite efforts to preserve item meaning, without confirmation of linguistic equivalence, there is a risk that participants interpreted items in ways that differ from the original intent. Future studies should prioritize formal validation procedures such as back-translation and pilot testing.

Finally, the study had a relatively narrow theoretical focus. By emphasizing only other-based achievement goals, the potential interaction between task- or self-based goals and trait resilience or competitive anxiety was not examined in the present study. While this focus was justified by the study's aim to explore competition on other-based goals, it leaves out alternative goal frameworks that may also shape athletes' experience of anxiety. Including a wider range of achievement goals (task-based and

self-based) would provide a more comprehensive view of how different motivational systems interact with resilience in the sport context.

Future Research

These considerations highlight the complexity of interpreting the current findings and point to several directions for future research. In light of our earlier discussion, in future research, we anticipate that incorporating self- and task-based goals will reveal additional pathways in the trait resilience and competitive state anxiety relationship. Task-approach goals, mastery of the task, could strengthen self-efficacy and may further help to reduce cognitive and somatic anxiety by focusing athletes on controllable process cues and providing immediate feedback that enhances perceived competence (Dasinger & Solmon, 2022). In contrast, within the fear of failure framework, task-avoidance goals would predict higher cognitive anxiety (Stenling et al., 2014). Self-approach goal, aiming to outperform one's own previous performance, may offer modest benefit, given the mental effort of comparing current to past standards (Diseth, 2015). Furthermore, self-avoidance goals, avoiding doing worse than one's prior performance, are expected to be linked to higher anxiety by maintaining a fear of failure mindset, similar to other-avoidance goals (Pekrun et al., 2006, 2009). Testing these hypotheses would clarify how each achievement goal interacts with trait resilience to shape athletes' competitive state anxiety.

This integrative approach underscores the value of examining trait resilience within a broader framework that incorporates motivational processes, stress appraisals, and emotional regulation. Although resilience alone appears to function as a protective factor, its influence may depend on how athletes interpret and pursue their achievement goals. Future research should explore further how these dispositional and motivational elements interact across different sports, competition levels, and

developmental stages. This perspective may lead to more targeted and effective psychological interventions designed to enhance athlete well-being and optimize performance.

Practical Implications

Beyond theoretical contributions, the current findings also offer several applied insights. The findings suggest that sport psychologists, coaches, and practitioners should address trait resilience and athletes' tendencies toward other-approach and other-avoidance goals when aiming to manage cognitive and somatic anxiety.

Grounding these applications in Self-Determination Theory (SDT; Deci & Ryan, 2012) provides a practical guide for understanding athletes' other-based goals and anxiety in a competitive context. It emphasizes the satisfaction of three basic psychological needs: autonomy, competence, and relatedness as essential for sustaining self-determination, motivation, resilience, and effective coping skills (Deci & Ryan, 2000; Trigueros et al., 2019; González et al., 2020; Ryan & Deci, 2020).

First, training environments can be structured to strengthen autonomy, competence, and relatedness on a daily basis. Coaches can support athletes' autonomy by involving them in decision-making processes, encouraging them to set their own goals. They can promote competence by designing suitably challenging tasks and constructive feedback that motivates skills improvement and builds confidence. Relatedness can be strengthened if coaches build trusting relationships, maintain open lines of communication based on mutual respect and support (Alkasasbeh & Akroush, 2025). When these needs are met, athletes are more likely to show higher resilience, greater engagement in competition, sustain greater motivation, and be better able to cope with anxiety (González et al., 2020; Diotaiuti et al., 2021; Alkasasbeh & Akroush, 2025).

Second, placing primary emphasis on task- and self-based goals can protect against the negative effects of cognitive and somatic anxiety and foster motivation and self-efficacy (Van Yperen, 2014;

Dasinger & Solmon, 2022). These goals, centred on improvement and learning, can be promoted through goal-setting workshops where athletes set performance targets based on their own past performance or skill mastery. Coaches can reinforce these aims by providing feedback that highlights progress and personal improvement over comparative rankings (Van Yperen, 2021; Pintrich, 2000).

Third, reducing the influence of other-avoidance goals is important, as they focus on not performing worse than others and often heighten anxiety (Morris & Kavussanu, 2009; Putwain & Symes, 2012). This can be achieved by reframing mistakes as learning opportunities, shifting evaluations toward self-referenced progress, and focusing on controllable processes rather than rankings.

Fourth, practitioners should not overlook the importance of other-based goals, as avoiding them entirely is neither realistic nor necessarily desirable in competitive sports. Given that competition involves social comparison by nature (Van Yperen, 2021), other-approach goals can be used constructively when the athlete personally values the outcome and sees it as part of a meaningful long-term aim, rather than as a way to avoid criticism or prove worth to others. In such cases, outperforming others is self-endorsed, regulated by autonomous motivation, and more likely to promote persistence, adaptive coping, and lower anxiety (Vansteenkiste et al., 2010). For example, in tennis, a player's goal might be to increase their first-serve percentage to 70% across a match, while the secondary aim is to defeat the rival. Guiding athletes to connect such competitive aims to controllable means rather than uncontrollable outcomes helps maintain a healthy focus (Van Yperen, 2021).

Fifth, fostering athletes' capacity for self-regulation and structured reflection can help them manage other-based goals adaptively. Self-regulation involves monitoring, evaluating, and adjusting one's cognitions, emotions, and behaviors to remain aligned with valued performance aims (Mahoney et al., 2014). When applied within the Self-Determination Theory framework, these processes can enhance autonomous motivation by allowing athletes to connect their goals, whether task-, self-, or other-based,

to personally endorsed values. Evidence from intervention research indicates that combining reflective practices with mindfulness and values-based coaching principles can strengthen emotional regulation, increase persistence, and improve need satisfaction even in high-pressure contexts (Gutman et al., 2025). Practical applications include encouraging athletes to document their pre-competition intentions, record how they respond to challenges, and discuss these patterns with coaches in a supportive and autonomy-promoting environment (Gutman et al., 2025; Mahoney et al., 2014). Such approaches enable athletes to use social comparisons constructively, sustain motivation, and regulate both cognitive and somatic anxiety during competition (Mornell et al., 2025; Gutman et al., 2025).

By integrating these steps into regular practice, coaches and practitioners can support basic psychological needs, guide athletes toward more adaptive goal orientations, and strengthen their ability to sustain motivation and manage anxiety in competitive sport.

Conclusion

For many athletes, managing anxiety during competition involves more than technical skill; it requires psychological resources to navigate anxiety, uncertainty, and social evaluation. This study examined how trait resilience and other-based goals (other-approach and other-avoidance goals) affect athletes' levels of competitive state anxiety (cognitive and somatic anxiety), offering new insights into the mechanisms that underlie adaptive functioning in sport. The findings suggest that athletes with stronger psychological trait resilience may naturally orient themselves toward goals that present a challenge rather than goals driven by fear of failure. Making these goal-setting patterns more explicit could help athletes better understand and regulate their cognitive and somatic anxiety in competition.,

Overall, the present study contributes to the growing body of literature on how psychological factors like trait resilience and achievement goals shape athletes' experiences of competitive state

anxiety. By integrating achievement goal theory with individual differences in resilience, the results indicate that goal orientation partly explains how resilient athletes manage competitive state anxiety in competition. Specifically, other-based goals appear to represent one motivational pathway through which resilience influences both cognitive and somatic anxiety.

References

Akgönül, E. K., Tez, Ö. Y., & Aras, D. (2021). The Validity and Reliability of the Turkish Version of the Revised Competitive Sport Anxiety Inventory-2. *Eurasian Journal of Sport Sciences and Education*, *3*(1), 61–80. https://doi.org/10.47778/ejsse.935935

Alkasasbeh, W. J., & Akroush, S. H. (2025). Sports motivation: A narrative review of psychological approaches to enhance athletic performance. *Frontiers in Psychology*, 16, 1645274. https://doi.org/10.3389/fpsyg.2025.1645274

Biricik, Y. S., & Sivrikaya, M. H. (2020). Investigation of psychological resilience and self-effect levels of the Faculty of Sports Students. *International Journal of Applied Exercise Physiology, 9*(9), 82–89.

Chalabaev, A., Major, B., Cury, F., & Sarrazin, P. (2009). Physiological markers of challenge and Threat mediates the effects of performance-based goals on performance. *Journal of Experimental Social Psychology, 45*(4), 991–994. https://doi.org/10.1016/j.jesp.2009.04.009

Cox, R. H., Martens, M. P., & Russell, W. D. (2003). Measuring anxiety in athletics: the revised Competitive State Anxiety Inventory–2. *Journal of Sport and Exercise Psychology, 25*(4), 519–533. https://doi.org/10.1123/jsep.25.4.519

Cury, F., Elliot, A., Sarrazin, P., Da Fonseca, D., & Rufo, M. (2002). The trichotomous achievement goal model and intrinsic motivation: A sequential mediational analysis. *Journal of Experimental Social Psychology, 38*(5), 473–481. https://doi.org/10.1016/S0022-1031(02)00017-3

Dasinger, T. M., & Solmon, M. A. (2022). Exploring the relationships among achievement Goal Theory, state anxiety, and intentions to be physically active. *Int. J. Sport. Exerc. Health*

Res, 6(1), 74–80.

Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Deci, E. L., & Ryan, R. M. (2012). Self-determination theory. *Handbook of theories of social psychology, 1*(20), 416–436.

Diotaiuti, P., Corrado, S., Mancone, S., & Falese, L. (2021). Resilience in the endurance runner: The role of self-regulatory modes and basic psychological needs. *Frontiers in Psychology*, 11, 558287. https://doi.org/10.3389/fpsyg.2020.558287

Diseth, Å. (2015). The advantages of task-based and other-based achievement goals as standards of competence. *International Journal of Educational Research*, 72, 59–69. https://doi.org/10.1016/j.ijer.2015.04.011

Doğan, T. (2015). Adaptation of the Brief Resilience Scale into Turkish: A validity and reliability study. *The Journal of Happiness & Well-Being, 3*(1), 93.

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 72*(1), 218.

Elliot, A. J., & Dweck, C. S. (2005). Competence and motivation. *Handbook of competence and motivation*, 3–12.

Elliot, A. J., & McGregor, H. A. (1999). Test anxiety and the hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 76*(4), 628. https://doi.org/10.1037/0022-3514.76.4.628

Elliot, A. J., Murayama, K., & Pekrun, R. (2011). A 3×2 achievement goal model. *Journal of Educational Psychology, 103*(3), 632. https://doi.org/10.1037/a0023952

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fletcher, D., & Sarkar, M. (2012). A grounded theory of psychological resilience in the Olympic champions. *Psychology of Sport and Exercise, 13*(5), 669–678. https://doi.org/10.1016/j.psychsport.2012.04.007

Fletcher, D., & Sarkar, M. (2016). Mental fortitude training: An evidence-based approach to developing psychological resilience for sustained success. *Journal of Sport Psychology in Action, 7*(3), 13–-157. https://doi.org/10.1080/21520704.2016.1255496

González-Hernández, J., Gomariz-Gea, M., Valero-Valenzuela, A., & Gómez-López, M. (2020). Resilient resources in youth athletes and their relationship with anxiety in different team sports. *International Journal of Environmental Research and Public Health, 17*(15), 5569. https://doi.org/10.3390/ijerph17155569

Gould, D., Dieffenbach, K., & Moffett, A. (2002). Psychological characteristics and their development in Olympic champions. *Journal of Applied Sport Psychology, 14*(3), 172–204. https://doi.org/10.1080/10413200290103482

Gucciardi, D. F. (2010). Mental toughness profiles and their relations with achievement goals and sport motivation in adolescent Australian footballers. *Journal of Sports Sciences, 28*(6), 615–625. https://doi.org/10.1080/02640410903582792

Gucciardi, D. F., Hanton, S., & Fleming, S. (2017). Are mental toughness and mental health Contradictory concepts in elite sport? A narrative review of theory and evidence. *Journal of Science and Medicine in Sport, 20*(3), 307–311. https://doi.org/10.1016/j.jsams.2016.08.006

Gutman, T., Lev-Arey, D., Gottlieb, A., & Tarrasch, R. (2025). Integrating the Mindfulness-Acceptance-Commitment Framework with Self-Determination Theory Principles to Promote Need-Supportive Sport Coaching. P*sychology of Sport and Exercise*, 102893. https://doi.org/10.1016/j.psychsport.2025.102893

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis Second Edition: A regression-based approach.* Guilford Publications.

Hu, T., Zhang, D., & Wang, J. (2015). A meta-analysis of the trait resilience and mental health. *Personality and Individual Differences*, 76, 18–27. https://doi.org/10.1016/j.paid.2014.11.039

Jones, G., Swain, A., & Cale, A. (1991). Gender differences in pre-competition temporal fattening and antecedents of anxiety and self-confidence. *Journal of Sport and Exercise Psychology, 13*(1), 1–15. https://doi.org/10.1123/jsep.13.1.1

Lee, F. K., Sheldon, K. M., & Turban, D. B. (2003). Personality and the goal-striving process: the influence of achievement goal patterns, goal level, and mental focus on performance and enjoyment. *Journal of Applied Psychology, 88*(2), 256.

Li, C., Wang, C. J., & Kee, Y. H. (2013). Burnout and its relations with basic psychological needs and motivation among athletes: A systematic review and meta-analysis. *Psychology of Sport and Exercise, 14*(5), 692–700. https://doi.org/10.1016/j.psychsport.2013.04.009

Lim, M. L., & Chue, K. L. (2023). Academic resilience and test anxiety: The moderating role of achievement goals. *School Psychology International, 44*(6), 668–687. https://doi.org/10.1177/01430343231162876

Litwic-Kaminska, K. (2020). Types of cognitive appraisal and undertaken coping strategies

during sport competitions. *International Journal of Environmental Research and Public Health, 17*(18), 6522. https://doi.org/10.3390/ijerph17186522

Lochbaum, M., & Gottardy, J. (2015). A meta-analytic review of the approach-avoidance achievement goals and performance relationships in the sport psychology literature. *Journal of Sport and Health Science, 4*(2), 164–173. https://doi.org/10.1016/j.jshs.2013.12.004

Lyu, C., Ma, R., Hager, R., & Porter, D. (2022). The relationship between resilience, anxiety, and depression in Chinese collegiate athletes. *Frontiers in Psychology*, 13, 921419. https://doi.org/10.3389/fpsyg.2022.921419

Mahato, A. K., & Thander, A. (2023). Anxiety and resilience in relation to performance: a systematic review. *International Journal of Novel Research and Development (IJNRD)*, *8*(10).

Mahoney, J., Ntoumanis, N., Mallett, C., & Gucciardi, D. (2014). The motivational antecedents of the development of mental toughness: a self-determination theory perspective. *International Review of Sport and Exercise Psychology, 7*(1), 184–197. https://doi.org/10.1080/1750984X.2014.925951

Martens, R., Vealey, R. S., & Burton, D. (1990). Competitive anxiety in sport.

Martin-Krumm, C. P., Sarrazin, P. G., Peterson, C., & Famose, J. P. (2003). Explanatory style and resilience after sports failure. *Personality and Individual Differences, 35*(7), 1685–1695. https://doi.org/10.1016/S0191-8869(02)00390-2

Mascret, N., Elliot, A. J., & Cury, F. (2015). Extending the 3× 2 achievement goal model to the sport domain: The 3× 2 Achievement Goal Questionnaire for Sport. *Psychology of Sport and Exercise*, 17, 7–14. https://doi.org/10.1016/j.psychsport.2014.11.001

McNally, I. M. (2002). Contrasting concepts of competitive state-anxiety in sport: Multidimensional anxiety and catastrophe theories. *Athletic Insight: The Online Journal of Sport Psychology, 4*(2), 10–22.

Mornell, A., Osborne, M. S., Kageyama, N., & Heuser, F. (2025). Motivation in learning and performance in the arts and sports. *Frontiers in Psychology*, 16, 1554109. https://doi.org/10.3389/fpsyg.2025.1554109

Morris, R. L., & Kavussanu, M. (2009). The role of approach-avoidance versus task and ego goals in enjoyment and cognitive anxiety in youth sport. *International Journal of Sport and Exercise Psychology, 7*(2), 185–202. https://doi.org/10.1080/1612197X.2009.9671899

Murayama, K., & Elliot, A. J. (2012). The competition–performance relation: A meta-analytic review and test of the opposing processes model of competition and performance. *Psychological Bulletin, 138*(6), 1035–1070. https://doi.org/10.1037/a0028324

Nuetzel, B. (2023). Coping strategies for handling stress and providing mental health in elite athletes: a systematic review. *Frontiers in Sports and Active Living*, 5, 1265783. https://doi.org/10.3389/fspor.2023.1265783

Patsiaouras, A. (2021). Team category and gender differences of resilience among high-level volleyball players. *Journal of Physical Education and Human Movement, 3*(1), 1–9.

Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. (2007). A meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology, 92*(1), 128.

Pekrun, R., Elliot, A. J., & Maier, M. A. (2006). Achievement goals and discrete achievement emotions: A theoretical model and prospective test. *Journal of Educational Psychology, 98*(3), 583. https://doi.org/10.1037/0022-0663.98.3.583

Pekrun, R., Elliot, A. J., & Maier, M. A. (2009). Achievement goals and achievement emotions: Testing a model of their joint relations with academic performance. *Journal of Educational Psychology, 101*(1), 115. https://doi.org/10.1037/a0013383

Pintrich, P. R. (2000). An achievement goal theory perspective on issues in motivation terminology, theory, and research. C*ontemporary Educational Psychology, 25*(1), 92–104. https://doi.org/10.1006/ceps.1999.1017

Pulido, J. J., Sánchez-Oliva, D., Leo, F. M., Sánchez-Cano, J., & García-Calvo, T. (2017). Development and validation of Coaches' Interpersonal Style Questionnaire. *Measurement in Physical Education and Exercise Science, 22*(1), 25–37. https://doi.org/10.1080/1091367X.2017.1369982

Putwain, D. W., & Symes, W. (2012). Achievement goals as mediators of the relationship between competence beliefs and test anxiety. *British Journal of Educational Psychology, 82*(2), 207–224. https://doi.org/10.1111/j.2044-8279.2011.02021.x

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, 101860. https://doi.org/10.1016/j.cedpsych.2020.101860

Sarkar, M., & Fletcher, D. (2013). How should we measure psychological resilience in sport performers?. *Measurement in Physical Education and Exercise Science, 17*(4), 264–280. https://doi.org/10.1080/1091367X.2013.805141

Sarkar, M., & Fletcher, D. (2014). Psychological resilience in sport performers: a review of stressors and protective factors. *Journal of Sports Sciences, 32*(15), 1419–1434. https://doi.org/10.1080/02640414.2014.901551

Sarkar, M., & Fletcher, D. (2017). Adversity-related experiences are essential for the Olympic

success: Additional evidence and considerations. *Progress in Brain Research*, 232, 159–165. https://doi.org/10.1016/bs.pbr.2016.11.009

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The Brief Resilience Scale: assessing the ability to bounce back. *International Journal of Behavioral Medicine, 15*(3), 194–200. https://doi.org/10.1080/10705500802222972

Splan, R. K., Brooks, R. M., Porr, S., & Broyles, T. W. (2011). Resiliency and achievement goal orientation among agricultural students. *NACTA Journal, 55*(4), 31–38.

Stenling, A., Hassmén, P., & Holmström, S. (2014). Implicit beliefs of ability, approach-avoidance goals and cognitive anxiety among team sport athletes. *European Journal of Sport Science, 14*(7), 720–729. https://doi.org/10.1080/17461391.2014.901419

Tamminen, K. A., & Gaudreau, P. (2014). Coping, social support, and emotion regulation in teams. *In Group dynamics in exercise and sport psychology* (pp. 222-239). Routledge.

Tamminen, K. A., Kim, J., Danyluck, C., McEwen, C. E., Wagstaff, C. R., & Wolf, S. A. (2021). The effect of self-and interpersonal emotion regulation on athletes' anxiety and goal achievement in competition. *Psychology of Sport and Exercise,* 57, 102034. https://doi.org/10.1016/j.psychsport.2021.102034

Trigueros, R., Aguilar-Parra, J. M., Cangas-Díaz, A. J., Fernández-Batanero, J. M., Mañas, M. A., Arias, V. B., & López-Liria, R. (2019). The influence of the trainer on the motivation and resilience of sportspeople: A study from the perspective of self-determination theory. *PloS one*, *14*(8), e0221461. https://doi.org/10.1371/journal.pone.0221461

Trigueros, R., Aguilar-Parra, J. M., Álvarez, J. F., Cangas, A. J., & López-Liria, R. (2020). The Effect of Motivation on the Resilience and Anxiety of the Athlete. *International Journal of Medicine & Science of Physical Activity & Sport, 20*(77).

Türkmen, M., Bozkus, T., & Altintas, A. (2013). The Relationship Between Motivation Orientations and Competitive Anxiety in Bocce Players: Does Gender Make a Difference. *Psychology and Behavioral Sciences*. (4), 162–168. https://doi.org/10.11648/j.pbs.20130204.12

Vansteenkiste, M., Smeets, S., Soenens, B., Lens, W., Matos, L., & Deci, E. L. (2010). Autonomous and controlled regulation of performance-approach goals: Their relations to perfectionism and educational outcomes. *Motivation and Emotion, 34*(4), 333–353. https://doi.org/10.1007/s11031-010-9188-3

Van Yperen, N. W. (2021). Achievement goals and self-regulation in the sport context. *In Social psychology: Handbook of basic principles* (pp. 589–606). Guilford Press.

Van Yperen, N. W. (2022). In the context of a sports match, the goal to win is most important, right? Suggestive evidence for a hierarchical achievement goal system. *Psychology of Sport and Exercise*, 60, 102134. https://doi.org/10.1016/j.psychsport.2022.102134

Van Yperen, N. W., & Leander, N. P. (2014). The overpowering effect of social comparison information: On the misalignment between mastery-based goals and self-evaluation criteria. *Personality and Social Psychology Bulletin, 40*(5), 676–688. https://doi.org/10.1177/0146167214523475

Van Yperen, N. W., Elliot, A. J., & Anseel, F. (2009). The influence of mastery-avoidance goals on performance improvement. *European Journal of Social Psychology, 39*(6), 932–943. https://doi.org/10.1002/ejsp.590

Van Yperen, N. W., Blaga, M., & Postmes, T. (2014). A meta-analysis of self-reported achievement goals and nonself-report performance across three achievement domains (work, sports, and education). *PloS one, 9*(4), e93594.

https://doi.org/10.1371/journal.pone.0093594

Walton, C. C., Rice, S., Gao, C. X., Butterworth, M., Clements, M., & Purcell, R. (2021). Gender differences in mental health symptoms and risk factors in Australian elite athletes. *BMJ Open Sport & Exercise Medicine, 7*(1). https://doi.org/10.1136/bmjsem-2020-000984

Appendix A

Table 1A

Descriptive Statistics and Correlations for Study Variables (N = 93)

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Age	23.67	3.2	—						
2. Experience	6.34	3.33	.36**	—					
3. Resilience	20.58	5.55	.38**	.39**	—				
4. Cog. Anxiety[a]	21.16	6.37	–.37**	–.27**	–.74**	—			
5. Som. Anxiety[b]	15.91	5.52	–.38**	–.10	–.59**	.75**	—		
6. Tot_O_Ap[c]	5.94	1.3	.18	.24*	.41**	–.56**	–.41**	—	
7. Tot_O_Av[d]	4.33	2.06	–.28**	–.18	–.53**	.61**	.48**	–.40**	—
8. Gender[e]	—	—	–.03	.11	.42**	–.30**	–.34**	.05	–.08

Note.

[a] Cog_Anxiety = Cognitive Anxiety

[b] Som_Anxiety = Somatic Anxiety

[c]Tot_O_Ap = Other-Approach Goals

[d] Tot_O_Av=Other-Avoidance Goals

Gender was dummy-coded (–1 = male, +1 = female).

$p < .05$. $p < .01$. All correlations are two-tailed.