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Psychological Profiles of Student Volleyball Athletes: Competitive Anxiety and Task–Ego Goal Orientation

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Abstract

This study showed that competitive anxiety did not have a significant relationship with task orientation or ego orientation in student volleyball athletes, so the two research hypotheses did not receive empirical support. The study aimed to describe the level of competitive anxiety and goal orientation and analyze the relationship between competitive anxiety and both dimensions of goal orientation in junior high school boys' volleyball athletes 22 Semarang. The study used a quantitative approach with a cross-sectional descriptive-correlational design involving 12 athletes. Competitive anxiety was measured using the Sport Competition Anxiety Test (SCAT), while goal orientation was measured using the Task and Ego Orientation in Sport Questionnaire (TEOSQ). The data were analyzed using descriptive statistics, the Shapiro–Wilk test, the Spearman correlation as the main analysis, and the Pearson correlation as the sensitivity analysis. The results showed that 75.0% of the athletes were in the moderate anxiety category and 25.0% in the low category. Descriptively, task orientation (M = 3.90; SD = 0.37) was higher than ego orientation (M = 2.22; SD = 0.70). Spearman's analysis showed that competitive anxiety was almost unrelated to task orientation ($\rho = 0.024$; $p = 0.942$) and had a very weak and insignificant negative association with ego orientation ($\rho = -0.113$; $p = 0.727$). Sensitivity analysis using Pearson provided a consistent pattern for the relationship between anxiety and task orientation ($r = 0.128$; $p = 0.691$) and ego orientation ($r = -0.203$; $p = 0.527$). These findings suggest that competitive anxiety levels are not directly related to how athletes define success based on either task orientation or ego. The results need to be interpreted carefully because the sample size is limited and the internal consistency of some subscales is not optimal.

Keywords: competitive anxiety; goal orientation; task orientation; ego orientation; student volleyball.

INTRODUCTION

Sports competitions in school-age athletes demand the integration of physical, technical, tactical, cognitive, and psychological abilities. Athletes must not only execute skills effectively, but also manage evaluative pressures, victory expectations, momentum changes, mistakes, and the demands of maintaining performance in unpredictable situations. In team sports, the demands of matches change according to the characteristics of the game, the phase of the match, and the intensity of the competition, so that psychological readiness becomes part of contextual performance. (García-Ceberino et al., 2022; Sarmento et al., 2022). In volleyball, performance is shaped by the relationship between serve-reception, set, and attack; the quality of reception is related to the effectiveness of the attack and the pattern can vary by age group (Adamec & Přidal, 2024; Fatahi et al., 2022). At the competitive level, attack indicators also differ by team level, while elite coaches value technical contribution and relative participation as important components of player performance (López-Serrano et al., 2023; Mocanu et al., 2024). This complexity makes adaptability to pressure an important part of the performance of volleyball athletes.

In this context, competitive anxiety is a relevant psychological issue in young athletes. Prematch anxiety can be influenced by sports experience and individual characteristics (Akgönül & Güçlüerler, 2023), While in team sports, age and sports experience can be related differently to the

component of competitive anxiety (Do Nascimento et al., 2023). In young age groups, performance anxiety can arise through overthinking, anxious arousal, somatic complaints, and behavioral responses that have the potential to interfere with skill execution (McDuff et al., 2025). Mental fatigue can also decrease performance on tasks that require concentration and motor control (Grgic et al., 2022), including the psychomotor performance of elite young athletes (Díaz-García et al., 2024). In U-18 men's volleyball players, competitive anxiety, confidence, and self-efficacy change throughout the season, suggesting that the psychological state of young athletes is dynamic (de Andrade Nogueira et al., 2024). Increased pressure can also change perceptions of pressure and self-confidence without always producing a uniform change in performance (Lastella et al., 2024), while the relationship between self-confidence and performance is influenced by sports characteristics and measurement methods (Lochbaum et al., 2022). Therefore, psychological responses in competition cannot be understood through simple relationships.

This issue is increasingly important in junior high school athletes as the regulation of emotions, perception of ability, competitive experience, and how to define success are still evolving. Studies in athletes under the age of 18 show that sports development needs to be understood multidimensionally because psychological aspects, training experiences, and performance demands change with the developmental process (Martín-Miguel et al., 2025). Relative age factors can affect the participation of young athletes (Gil-Arias et al., 2021), while maturation can affect training responses and talent selection processes (King et al., 2024; Lin et al., 2025). Differences in performance characteristics between U-14 and senior athletes also show the development of physical abilities by age stage (Gisladottir et al., 2024), while periodization and strength training can alter the physical indicators and skills of young athletes (Lauria et al., 2021; Loturco et al., 2022). On the other hand, social support remains important because young athletes can experience frustration when faced with barriers to sports development (Ekenros et al., 2023), while pleasurable experiences help maintain involvement in volleyball at a young age (Costa et al., 2025).

The literature offers a goal-oriented framework for understanding how athletes interpret success during those demands. Competitive anxiety represents a response to stress, anxiety, or tension, while goal orientation describes the standards that athletes use to define success. In the Task and Ego Orientation in Sport Questionnaire (TEOSQ), task orientation places success on skill mastery, effort, personal development, and task completion, while ego orientation emphasizes superiority or comparison of abilities with others. This distinction is important because constructs of motivational regulation in sport require evidence of adequate validity and reliability (Alexe et al., 2022). In the learning process, focusing on information relevant to the task can also improve the quality of motor training and attention (Penalver-Andres et al., 2021), visual-verbal cue coordination can support tactical learning (Mezghanni et al., 2022), and more skilled athletes tend to take advantage of earlier pattern recognition in anticipation (Ivosevic & Stöckel, 2025). The evidence is not identical to goal orientation but suggests that the meaning of mastery-based success develops in a broader learning ecology rather than just competition pressures.

Solutions developed in the literature suggest that anxiety and motivational processes can be modified through psychological interventions. Programs that integrate goal setting, visualization, mindfulness, and team cohesion can improve competitive readiness while influencing motivation and anxiety (Alecu & Onea, 2025). Imagery practice also has the potential to improve athletes' psychological indicators (Zhang et al., 2025), while heart-rate-variability biofeedback is associated with a decrease in stress and anxiety (Pratviel et al., 2024). Structured yoga interventions have been

reported to improve focus, resilience, and reduce perceived stress in team sports athletes (Vijayalakshmi & Saroja, 2025). At the implementation level, athletes' and coaches' acceptance of sports psychology services is also an important part of performance coaching (Simonti et al., 2025). However, the success of these interventions does not by itself prove that there is a natural and direct relationship between competitive anxiety and task orientation or ego orientation.

This is where the research gap emerges. Previous studies have more associated anxiety with confidence, self-efficacy, individual characteristics, performance pressure, or match outcomes (Akgönül & Güçlüerler, 2023; de Andrade Nogueira et al., 2024; Do Nascimento et al., 2023; Lochbaum et al., 2022) while the direct relationship between competitive anxiety and two dimensions of goal-orientation in junior high school volleyball athletes is still limited. Studies of young athletes have also highlighted a lot of development, social support, training experiences, and a positive sports environment (Costa et al., 2025; Ekenros et al., 2023; Martín-Miguel et al., 2025). Meanwhile, volleyball research is developing strongly on the aspects of technique, training, learning, measurement, and performance (Fatahi et al., 2022; Pawlik et al., 2022; Rifki et al., 2025; Wibowo et al., 2024) but the relationship between emotional responses to competition and task-ego motivational frameworks in student athletes is still poorly explained. This gap is reinforced by the large number of studies on adult athletes, elite athletes, or cross-sport samples that do not fully represent the context of school competitions.

Based on these gaps, this study aims to describe the level of competitive anxiety as well as the profile of task orientation and ego orientation, then analyze the relationship between competitive anxiety and each dimension of goal orientation in boys' volleyball athletes of SMP Negeri 22 Semarang. The novelty of the study lies in the simultaneous testing of the relationship between competitive anxiety and task orientation and ego orientation in junior high school volleyball athletes in the context of real interschool competitions, with the two dimensions of goal orientation treated as different constructs. The scope of the study is limited to competitive anxiety and two dimensions of goal orientation in a cross-sectional correlational design in a team of student athletes. Based on this framework, the study tested two hypotheses: H1, there is a significant relationship between competitive anxiety and task orientation; and H2, there is a significant relationship between competitive anxiety and ego orientation in student volleyball athletes.

METHODS

Research Design

This study uses a quantitative approach with a cross-sectional correlational design. This design is used to describe the competitive anxiety profile and goal orientation of athletes and test the relationship between competitive anxiety and two dimensions of goal orientation, namely task orientation and ego orientation without providing manipulation or experimental treatment to participants. The main variable of the study is competitive anxiety as a psychological construct measured through the Sport Competition Anxiety Test (SCAT), while goal orientation is operationalized through two subscales of the Task and Ego Orientation in Sport Questionnaire (TEOSQ). The correlational approach was chosen because the research is directed at identifying the strength and direction of the relationship between psychological constructs in the context of student sports competitions. A similar approach has been used to examine competitive anxiety and individual characteristics of athletes in team sports (Do Nascimento et al., 2023), while research on young volleyball players has also shown that anxiety responses can be studied quantitatively in real

competitive contexts (de Andrade Nogueira et al., 2024).

Participants

The study participants consisted of 12 male student volleyball athletes from SMP Negeri 22 Semarang who were team members in the context of interschool competitions. All 12 participants had complete data on the variables of competitive anxiety and goal orientation so that they could be maintained in statistical analysis. The study was focused on school-age athletes because the adolescent period is a developmental stage when competitive experience, psychological response control, and meaning of sports success are still developing. Previous studies have shown that prematch anxiety is a relevant phenomenon in adolescent athletes from individual and team branches (Akgönül & Güçlüerler, 2023). The source manuscript does not explicitly describe the sampling techniques used; therefore, this study only reports the number and characteristics of the sample that are factually available without claiming a specific sampling method.

Procedure

The research procedure was carried out through several successive stages. First, the research problem was identified based on the psychological context of the student volleyball athletes when facing the competition. Second, a literature review was conducted to establish a conceptual basis regarding competitive anxiety and goal orientation. Third, the SCAT and TEOSQ instruments were used to obtain participants' psychological data according to the scoring structure and procedure of each instrument. After the questionnaire was collected, the data were examined to ensure the completeness of the response, coding consistency, and accuracy of the score calculation. Next, the composite score was calculated for competitive anxiety, task orientation and ego orientation. Because the number of items of the two subscale TEOSQ was different, the goal orientation profile was reported using an average score per item so that both dimensions could be described on comparable metrics. The final stage included statistical analysis, interpretation of findings based on the research hypothesis, and preparation of scientific reports.

Instrument

Competitive anxiety was measured using the Sport Competition Anxiety Test (SCAT). Based on the research data structure, the SCAT score analysis used 10 items that contributed to the anxiety score. SCAT was used to generate competitive anxiety scores while providing a categorical picture of athletes' anxiety levels. The use of structured psychological instruments to measure anxiety responses in the context of competition has also been widely applied to research of adolescent athletes and team sports, although the types of instruments may differ between studies (Akgönül & Güçlüerler, 2023; de Andrade Nogueira et al., 2024).

Goal orientation was measured using the Task and Ego Orientation in Sport Questionnaire (TEOSQ) which in the research dataset consisted of 13 items. The instrument was treated as two conceptually different subscales, namely Ego Orientation which consisted of six items and Task Orientation which consisted of seven items. Since the two subscales had different number of items, the average score per item was used to compare the descriptive profiles of the two, while the total TEOSQ score was only treated as an additional analysis and was not used as a key indicator of goal orientation.

Table 1. Internal Consistency Estimates Based on the Available Dataset

Scale	Number of Items Analyzed	Cronbach's α
SCAT, based on the stored item scores	10 scored items	.459
Ego orientation	6	.787
Task orientation	7	.035
Overall TEOSQ[2]	13	.573

SCAT and TEOSQ were administered using standard assessment procedures and internal consistency was also checked on the study dataset. Cronbach's alpha sample was obtained as 0.459 for SCAT, 0.787 for Ego Orientation, 0.035 for Task Orientation, and 0.573 for overall TEOSQ. Given that the number of participants was only 12, the coefficient was treated as an exploratory estimate and not as the sole basis for determining the feasibility of the instrument. Psychometric evaluations that include reliability and construct structure are important aspects when motivational instruments are used in specific sports contexts (Alexe et al., 2022).

Data Analysis

Data analysis was carried out in stages. First, data screening was conducted to check the completeness of the data, coding consistency, and accuracy of composite scores. Second, descriptive statistics were calculated in the form of frequency, percentage, mean, standard deviation, median, minimum value, and maximum. The distribution of the SCAT category was used to describe the level of competitive anxiety, while task orientation and ego orientation were reported using an average score per item. Third, the distribution of variables was examined using the Shapiro–Wilk test, accompanied by examination of distribution characteristics. Given that the sample size was small and the distribution of Task Orientation did not meet the assumption of normality in the initial analysis, Spearman's rank-order correlation was established as the primary inferential analysis. The two primary relationships tested were SCAT with Task Orientation and SCAT with Ego Orientation. Pearson's correlation is calculated as a sensitivity analysis to evaluate whether the direction and magnitude of the relationship are relatively consistent when parametric estimators are used. A rating-based correlational approach has also been used in competitive anxiety studies in team sports athletes (Do Nascimento et al., 2023). The entire test used a two-tailed approach with a significance level of $\alpha = 0.05$.

RESULTS

The analysis began with data screening to ensure completeness, consistency of coding, and accuracy in calculating the scores for each instrument. The study involved 12 student volleyball athletes. Competitive anxiety was measured using the Sport Competition Anxiety Test (SCAT), while goal orientation was assessed using the Task and Ego Orientation in Sport Questionnaire (TEOSQ). Based on the structure of the dataset, the TEOSQ consisted of two distinct dimensions: ego orientation, comprising six items, and task orientation, comprising seven items. Because the two subscales contain different numbers of items, mean scores per item are more appropriate for describing the relative levels of ego and task orientation. Although an overall TEOSQ score may be reported as supplementary information, the primary correlational analyses should examine the relationships between SCAT and each TEOSQ subscale separately, as task and ego orientations represent theoretically distinct motivational constructs.

Table 2. Distribution of Competitive Anxiety Levels among Student Volleyball Athletes

Competitive Anxiety Level	n	%
Low	3	25.0
Moderate	9	75.0
High	0	0.0
Total	**12**	**100.0**

Most athletes were in the category of moderate competitive anxiety, with 9 out of 12 athletes (75.0%), while three athletes (25.0%) had low anxiety and no athletes were in the high anxiety category. These findings suggest that competitive psychological stress has occurred in most athletes, but its intensity has not been concentrated at an extreme level. The pattern is relevant to the evidence that precompetitive anxiety is a prevalent psychological experience in adolescent athletes and can present differently depending on the athlete's characteristics and competitive context (Akgönül & Güçlüerler, 2023). In young athletes, competitive anxiety can also manifest through cognitive, somatic, emotional, and behavioral responses, potentially affecting the consistency of skill execution when pressure increases (McDuff et al., 2025). In the context of youth volleyball, changes in anxiety levels throughout the competition season have also been reported, confirming that anxiety responses are a dynamic and contextual phenomenon (de Andrade Nogueira et al., 2024).

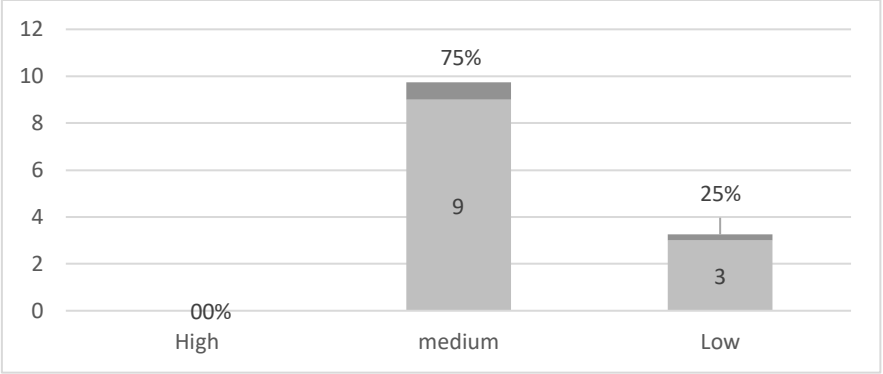

Figure 1. Distribution of Competitive Anxiety Levels among Student Volleyball Athletes

Figure 1 visualizes the dominance of the moderate anxiety category by 75%, compared to 25% of athletes in the low category and the absence of athletes with high anxiety. The concentrated distribution in the moderate category also shows that the variation in anxiety in the sample is relatively limited. This condition is important to note because the restricted range can reduce the number of correlations that can be detected in a small sample. In addition, studies in athletes in team sports show that the perception of competitive anxiety is not always uniform and can be related to the individual experiences and characteristics of athletes (Do Nascimento et al., 2023).

Table 2. Descriptive Statistics of Competitive Anxiety and Goal Orientation

Variable	n	Mean	SD	Median	Minimum	Maximum
SCAT	12	17.58	2.39	18.00	13.00	21.00
Total TEOSQ	12	40.67	5.14	40.50	34.00	49.00
Ego orientation, total score	12	13.33	4.19	12.00	8.00	20.00
Ego orientation, mean/item	12	2.22	0.70	2.00	1.33	3.33
Task orientation, total score	12	27.33	2.57	27.00	23.00	34.00
Task orientation, mean/item	12	3.90	0.37	3.86	3.29	4.86

An average SCAT score of 17.58 (SD = 2.39) indicates a variation in competitive anxiety between athletes, although most of it is still concentrated in the medium category. Meanwhile, the average per item of Task Orientation of 3.90 (SD = 0.37) is descriptively higher than the Ego Orientation of 2.22 (SD = 0.70). The pattern suggests that athletes in the sample tend to respond more to task orientation indicators than to ego indicators. This difference should be understood descriptively and cannot be stated as a significant difference as no direct comparative tests were conducted between the two subscales. More broadly, sports research shows that motivational processes and goal setting play an important role in psychological readiness for competition and can develop with the ability to manage anxiety (Alecu & Onea, 2025). The importance of the quality of motivational construct measurements in the context of athletes has also been affirmed in psychometric research of sports motivation instruments (Alexe et al., 2022).

The correlation between competitive anxiety and Ego Orientation was also insignificant. Spearman's rho showed a very weak negative association ($\rho = -0.113$; $p = 0.727$), while Pearson yielded $r = -0.203$ (95% CI [−0.696; 0.420]; $p = 0.527$). Negative direction indicated a tendency for higher anxiety scores to be accompanied by slightly lower Ego Orientation scores, but the magnitude of the association was too small and the uncertainty was too large to draw substantive conclusions. The uncertainty was apparent from Pearson's wide and cross-zero confidence intervals. Other studies have also shown that responses to competitive pressure do not necessarily have a simple relationship with psychological or performance indicators; for example, pressure manipulation can increase stress perception and alter confidence without resulting in a corresponding change in performance (Lastella et al., 2024).

Additional analysis between SCAT and total TEOSQ yielded Pearson $r = -0.101$ ($p = 0.755$) and Spearman $\rho = 0.000$ ($p = 1{,}000$), which also showed no association detected. However, the total TEOSQ score was not positioned as a key finding because the combination of Task and Ego Orientation could eliminate information regarding two different motivational patterns. The focus of the analysis therefore remained on the two subscales separately. Conceptually, the sports literature also shows that psychological readiness is a multidimensional phenomenon so that the relationship between anxiety, motivation, confidence, and response to competition should not be reduced to a single psychological index (Alecu & Onea, 2025; Gezer & Korucuk, 2026).

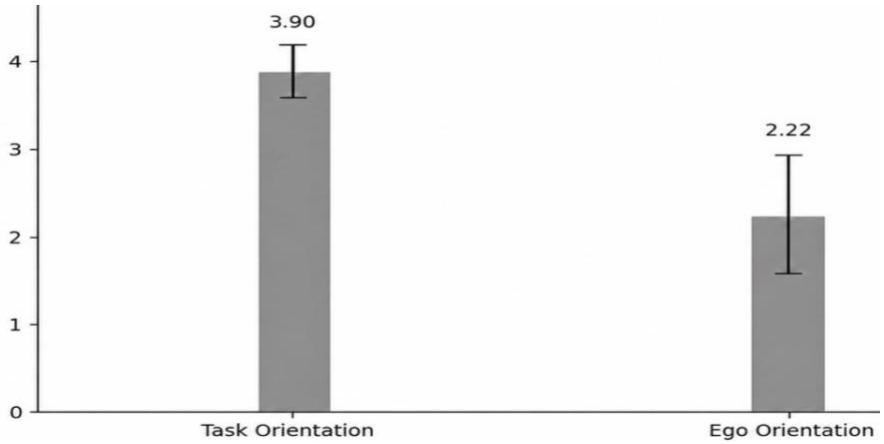

Figure 2. Athlete Task Orientation and Ego Orientation Profile

Figure 2 shows a clear descriptive difference between Task Orientation (M = 3.90; SD = 0.37) and Ego Orientation (M = 2.22; SD = 0.70). High task orientation scores descriptively may describe athletes' tendency to pay more attention to the learning process, engagement in tasks, and sports

experience, but these conclusions should still be limited to the study sample profile. Research on young volleyball shows that positive motivational experiences, including engagement and enjoyment in activities, are an important part of children's and adolescents' sports experiences (Costa et al., 2025), while psychological skills programs involving goal setting have also been shown to strengthen athletes' motivational qualities (Alecu & Onea, 2025).

Table 3. Shapiro-Wilk Normality Test Results

Variable	W	df	p
SCAT	.948	12	.609
Total TEOSQ	.940	12	.497
Ego orientation	.908	12	.199
Task orientation	.839	12	.027

The Shapiro–Wilk test showed that the SCAT distribution (W = 0.948; p = 0.609), the total TEOSQ score (W = 0.940; p = 0.497), and Ego Orientation (W = 0.908; p = 0.199) showed no significant deviation from normality. In contrast, the Task Orientation had W = 0.839 and p = 0.027 indicating an abnormal distribution. These conditions, plus the number of respondents who were only 12 athletes, were the main reasons for using Spearman's rho as the main correlation analysis, while Pearson was used as the sensitivity analysis. This conservative approach is also relevant given that athletes' psychological characteristics can show considerable individual variation, as found in studies of competitive anxiety in team sports athletes (Do Nascimento et al., 2023), as well as psychological studies in young athletes (Martín-Miguel et al., 2025).

Table 4. Levene's Test Results

Basis of Calculation	Levene Statistic	df1	df2	p
Based on Mean	1.558	1	10	.240
Based on Median	0.250	1	10	.628
Based on Median with adjusted df	0.250	1	8.212	.630
Based on Trimmed Mean	1.438	1	10	.258

The association between competitive anxiety and Task Orientation was very weak and close to zero based on Spearman's rho (ρ = 0.024; p = 0.942). Pearson's results showed a similar pattern, i.e. the positive correlation was very weak (r = 0.128; 95% CI [−0.481; 0.654]; p = 0.691). Thus, the data provide no evidence that differences in competitive anxiety levels are systematically related to Task Orientation. These results suggest that the experience of competitive stress and orientation towards task achievement may not move simply or linearly in the sample of these student-athletes. The psychological intervention literature suggests that anxiety and motivational processes can change simultaneously but remain distinct constructs and are influenced by various other psychological mechanisms (Alecu & Onea, 2025).

The correlation between competitive anxiety and Ego Orientation was also insignificant. Spearman's rho showed a very weak negative association (ρ = −0.113; p = 0.727), while Pearson yielded r = −0.203 (95% CI [−0.696; 0.420]; p = 0.527). Negative direction indicated a tendency for higher anxiety scores to be accompanied by slightly lower Ego Orientation scores, but the magnitude of the association was too small and the uncertainty was too large to draw substantive conclusions. The uncertainty was apparent from Pearson's wide and cross-zero confidence intervals. Other studies have also shown that responses to competitive pressure do not necessarily have a simple relationship

with psychological or performance indicators; for example, pressure manipulation can increase stress perception and alter confidence without resulting in a corresponding change in performance (Lastella et al., 2024).

Additional analysis between SCAT and total TEOSQ yielded Pearson r = −0.101 (p = 0.755) and Spearman ρ = 0.000 (p = 1,000), which also showed no association detected. However, the total TEOSQ score was not positioned as a key finding because the combination of Task and Ego Orientation could eliminate information regarding two different motivational patterns. The focus of the analysis therefore remained on the two subscales separately. Conceptually, the sports literature also shows that psychological readiness is a multidimensional phenomenon so that the relationship between anxiety, motivation, confidence, and response to competition should not be reduced to a single psychological index (Alecu & Onea, 2025; Gezer & Korucuk, 2026).

Table 5. Relationships between Competitive Anxiety and Goal Orientation

Relationship	Pearson's r	95% CI for r	p	Spearman's ρ	p
SCAT – Ego orientation	−.203	[−.696, .420]	.527	−.113	.727
SCAT – Task orientation	.128	[−.481, .654]	.691	.024	.942

Pearson's correlation analysis indicated a weak negative association between competitive anxiety and ego orientation, r = −.203, 95% CI (−.696, .420), p = .527. In contrast, the association between competitive anxiety and task orientation was positive but very weak, r = .128, 95% CI (−.481, .654), p = .691. Spearman's rank-order correlations produced a similar pattern, with ρ = −.113 (p = .727) for ego orientation and ρ = .024 (p = .942) for task orientation. Accordingly, neither analysis provided sufficient statistical evidence of a relationship between competitive anxiety and dimension of goal orientation in the present sample. This does not mean that the two constructs are unlikely to relate to a wider population; rather, research evidence from sports shows that anxiety responses are influenced by experience, age, individual characteristics, and competition context (Do Nascimento et al., 2023), while in young volleyball players anxiety changes also interact with other psychological conditions throughout the season (de Andrade Nogueira et al., 2024). Thus, the results of the study are more appropriately seen as preliminary evidence that the relationship between competitive anxiety and goal orientation in student-athletes may be more complex than a direct bivariate relationship.

DISCUSSION

The findings suggest that competitive anxiety is a real part of the psychological experience of student volleyball athletes, but its presence does not necessarily indicate psychological distress or unpreparedness for competition. Most athletes are in the category of moderate anxiety, so competitive pressure is felt but not concentrated at an extreme level. In young athletes, competitive performance anxiety can arise through cognitive anxiety, somatic activation, emotional changes, and behavioral responses whose intensity depends on the demands of competition and the regulatory capacity of the individual (McDuff et al., 2025). This pattern is consistent with the findings that prematch anxiety in adolescent athletes differs according to sports experience and individual characteristics (Akgönül & Güçlüerler, 2023) as well as that age and length of experience may relate differently to the components of competitive anxiety in team sports (Do Nascimento et al., 2023). Thus, anxiety in this sample is more accurately understood as a response to evaluative pressures that need to be managed, rather than as a single indicator of mental weakness.

Such interpretations are increasingly relevant in volleyball because match performance is shaped by the interaction of physical, technical, tactical, cognitive, and psychological demands. Analysis of team sports matches shows that performance demands change according to the period and context of the match (García-Ceberino et al., 2022; Sarmento et al., 2022). In volleyball, the quality of the reception-set-attack sequence and the contribution of the player's technique are important determinants of performance (Fatahi et al., 2022; López-Serrano et al., 2023), while the relationship between reception and attack can differ by age group (Adamec & Přidal, 2024) and attack indicators vary by team level (Mocanu et al., 2024). Therefore, a single psychological response is unlikely to explain all performance variations. The findings in young volleyball players that anxiety, self-confidence, and self-efficacy change throughout the season support this view (de Andrade Nogueira et al., 2024), and that pressure training can also alter the perception of pressure as well as self-confidence without causing a corresponding change in performance (Lastella et al., 2024).

Other findings show that task orientation is more descriptively prominent than ego orientation. In school-age athletes, this pattern makes sense because the coaching process is still largely centered on skill mastery, effort, and ability improvement. A fun and experiential-oriented learning environment can support enjoyment in volleyball at a young age (Costa et al., 2025), while a game-based learning model can improve volleyball skill mastery in students (Wibowo et al., 2024) and an integrated training approach is relevant for the skill development of young athletes (Alim & Yuliarto, 2022). The motor learning literature also shows that instruction that highlights task-relevant information can improve performance consistency (Penalver-Andres et al., 2021), visual-verbal cues can aid complex tactical learning (Mezghanni et al., 2022), and sport-specific experiences improve the ability to recognize patterns for anticipation (Ivosevic & Stöckel, 2025). The findings do not directly measure task orientation but conceptually support the importance of a skill-mastering environment that allows space to focus on the learning process.

The absence of a significant relationship between competitive anxiety and both dimensions of goal orientation suggests that the way athletes respond to match pressure does not automatically determine how they define success. Anxiety represents a response to competitive threats or demands, while goal orientation represents a motivational framework for evaluating success. Because their psychological functions are different, they can develop relatively independently despite being in the same context. These insignificant findings are consistent with evidence that the psychological constructs of sport are not always linearly related. In young volleyball players, the relationship between self-efficacy, self-confidence, anxiety, and match outcomes changes throughout the season (de Andrade Nogueira et al., 2024). Lastella et al. (2024) showed that higher pressure does not automatically lower performance, while Lochbaum et al. (2022) found that the relationship between self-confidence and performance was positive but heterogeneous. Therefore, the results of this study are more appropriately positioned as preliminary evidence that the relationship between anxiety and goal orientation is likely influenced by mediators, moderators, and developmental contexts that are not measured in this bivariate design.

The psychological condition of athletes can also be influenced by factors not measured in the study. Mental fatigue has been shown to lower performance on sports tests that demand cognitive control and skills (Grgic et al., 2022), and in elite young athletes it can interfere with sports-specific psychomotor performance (Díaz-García et al., 2024). In team sports, training load can be related to changes in fatigue, stress, and well-being (Costa et al., 2025). Responses to training loads can also differ between athletes, so generic indicators and activity-based indicators can capture aspects of

adaptation that are not entirely the same (Arguedas-Soley et al., 2025). These factors explain why two athletes with similar goal orientations may show different levels of anxiety at the same match time.

On the other hand, the results of this study appear to be different from intervention studies that showed simultaneous changes in motivation and anxiety. Alecu and Onea (2025) report that interventions that integrate goal setting, visualization, mindfulness, and team cohesion can improve psychological readiness while improving motivation and anxiety. This difference can be explained by the study design: the intervention actively modifies some psychological skills, whereas this study only observed natural relationships between constructs at a single point in time. Therefore, simultaneous changes due to the intervention do not necessarily result in strong correlations under observational conditions. Evidence from other sports also points to the importance of situational manipulation; the use of motivational music, for example, can alter performance compared to other musical conditions in recreational tennis players (Cengiz et al., 2024). This confirms that competitive responses are influenced by regulatory and environmental strategies, not just the motivational orientation that athletes have.

Theoretically, the results support the importance of viewing motivation and anxiety as multidimensional constructs. Alexe et al. (2022) show that measurements of sports motivation regulation require reliability, convergent validity, and discriminant validity before substantive interpretations are given. Developmental perspectives are also important because high school athletes are in a phase of biological, psychological, and social change. The effects of relative age can affect participation in competitive sports at a young age (Gil et al., 2021), while the maturation stage affects fitness responses to training (Lin et al., 2025) and can interact with physical-technical characteristics in the talent identification process (King et al., 2024). The differences in relationships between agility, sprint, and jumping in U-14 and senior athletes also confirm that the performance profile changes according to developmental stages (Gisladottir et al., 2024). Responses to periodization and strength training in young athletes (Lauria et al., 2021; Loturco et al., 2022) further suggest that development does not take place uniformly. Therefore, goal orientation and anxiety in student athletes are likely to change with age, experience, maturation, and competition exposure, as also emphasized in the study of the category of athletes under 18 years of age (Martín-Miguel et al., 2025).

Social experiences and the design of the training environment also play a role. Young athletes can experience frustration, fear of falling behind, and the need for support when facing obstacles to sports development (Ekenros et al., 2023). On the learning side, the manipulation of constraints can change the technical, tactical, and physical behavior of athletes (Teune et al., 2022), while small-sided games can interact with individual characteristics in shaping skill accuracy and coordination (Anwar et al., 2024). In young volleyball, an approach that emphasizes enjoyment and positive learning experiences can help with the sustainability of participation (Costa et al., 2025). Thus, goal orientation should be understood as part of an athlete's interaction with the coaching climate, training tasks, feedback, social experiences, and learning opportunities, rather than as a completely fixed psychological characteristic.

The interpretation of the results also needs to consider the quality of the measurements. Limited reliability can reduce the statistical ability to capture relationships between constructs and increase the uncertainty of estimates, especially in small samples. Research in the development of sports instruments confirms that validity and reliability are prerequisites before measurement results are used for substantive decisions (Rifki et al., 2025). In young volleyball, the relationship between

physical ability and technical skills also requires appropriate measurement tools and evaluation procedures so that interpretation is not oversimplified (Pawlik et al., 2022). This is in line with psychometric evidence that the structure of motivational constructs needs to be tested specifically in the studied population (Alexe et al., 2022). Therefore, the low alpha coefficient on SCAT and in particular Task Orientation in this dataset should be treated as an important limitation. The findings are more appropriately interpreted as the lack of evidence of a relationship in the current sample, rather than final evidence that anxiety and goal orientation are not related.

The results of the study confirm that coaches should not use competitive anxiety as a single indicator to assess athletes' motivational orientation. Evaluation of psychological readiness needs to integrate anxiety, self-confidence, self-efficacy, mental toughness, athletic identity, motivation, and well-being. Gezer and Korucuk (2026) show that sport confidence has an important role in the relationship between athletic identity and mental toughness when athletes adapt to performance stress. At the implementation level, athletes' and coaches' attitudes towards sports psychology services also determine the acceptance of psychological support (Simonti et al., 2025). Thus, psychological monitoring in school teams should ideally be carried out multidimensional and repeatedly, not based on a single score or a single measurement moment.

Coaching programs can integrate evidence-based psychological strategies without shifting the priority of technique and tactical training. A meta-analysis by Zhang et al. (2025) shows that imagery practice has the potential to improve athletes' mental health outcomes. Structured yoga practices are also associated with increased focus and resilience as well as decreased perceived stress in team sports athletes (Vijayalakshmi & Saroja, 2025). Physiological regulation strategies through a relaxation environment and heart-rate-variability biofeedback can have effects on stress and anxiety (Pratviel et al., 2024). These strategies can be combined with goal setting, visualization, mindfulness, and team cohesion as used in competitive readiness interventions (Alecu & Onea, 2025). Its implementation in school athletes needs to be simple, structured, and developmentally appropriate.

In student athletes, interventions should remain development centered. The training environment needs to promote learning, a sense of security to make mistakes, fun, and long-term engagement (Costa et al., 2025; Wibowo et al., 2024). Coaches need to adjust the load and challenges of training because physical development and maturity are not uniform (Lin et al., 2025), as well as consider that the performance demands of team sports change according to the game situation (García et al., 2022; Sarmento et al., 2022). With such a multidimensional approach, competitive anxiety and goal orientation can be understood as two distinct components that are equally relevant to the formation of learner athletes who are adaptive, motivated, and able to deal with competitive pressures in a healthy manner.

CONCLUSION

This study shows that male volleyball athletes at SMP Negeri 22 Semarang face competitive anxiety which is generally at a moderate level, while the goal orientation profile shows a stronger tendency to task orientation than ego orientation. This condition indicates that athletes are more likely to interpret success through skill mastery, effort, ability development, and task completion than through superiority or comparison with other athletes. The correlational analysis did not find a significant relationship between competitive anxiety and task orientation or ego orientation. Thus, the level of anxiety experienced by athletes in facing competition does not directly determine the goal orientation they use to interpret sports success. These findings show that competitive anxiety and goal

orientation are relatively different psychological constructs and may be influenced by various individual factors, development, competitive experience, and coaching environment. This study provides an initial overview of the relationship between emotional and motivational aspects in school-age volleyball athletes and confirms the importance of a multidimensional psychological approach in the development of young athletes. However, the limited sample size and the internal consistency of some subscales that are not yet optimal require careful interpretation of the study results. Further research is needed with larger samples, stronger psychometric measurements, and longitudinal designs to gain a more comprehensive understanding of the dynamics of competitive anxiety and the goal orientation of student athletes.

RECOMMENDATION

Based on the findings of the study, it is recommended that the coaching of student volleyball athletes should not only focus on physical, technical, and tactical aspects, but also include structured monitoring of psychological conditions. Coaches need to identify athletes' competitive anxieties regularly, especially before matches, so that responses to pressure can be recognized early and addressed through appropriate strategies. Training programs also need to maintain an environment that emphasizes skill mastery, effort, individual development, and the learning process so that task orientation continues to develop positively. Schools and managers of extracurricular activities are recommended to provide more systematic support for athletes' mental development through goal setting, relaxation, breath management, visualization, post-match reflection, and simulation of competitive situations. These approaches should be tailored to the level of development of athletes and implemented in an integrated manner with regular training programs. The involvement of coaches, teachers, parents, and where possible sports psychologists is also important to create a coaching environment that supports mental readiness on an ongoing basis. Further research is recommended to use larger sample sizes and involve multiple schools or teams for results to have better generalization. SCAT and TEOSQ instruments also need to be re-examined at the adaptation, coding, and reliability stages before being used in the main analysis. Longitudinal designs are recommended to observe changes in anxiety and goal orientation throughout the competition season. Additional variables such as confidence, self-efficacy, match experience, coach support, and match performance can be included to obtain a more comprehensive picture of the psychological dynamics of student athletes.

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