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PSYCHOLOGICAL SKILLS, EMOTIONAL INTELLIGENCE AND GOAL ORIENTATION AMONG YOUNG ADULT FEMALE ATHLETES IN TEAM AND INDIVIDUAL SPORTS

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ABSTRACT

This study examined differences and associations in psychological skills, emotional intelligence, and achievement goal orientation among female athletes in team and individual sports. A comparative cross-sectional design with purposive sampling was used to recruit athletes from sports clubs and training academies in Chengalpattu, Tamil Nadu, India. The main analysis included 98 athletes aged 18–25 years: 48 team athletes and 50 individual athletes. Participants completed the Unified Mental Skills Assessment Tool–6 short form, Brief Emotional Intelligence Scale, and Task and Ego Orientation in Sport Questionnaire through an online survey. Mann–Whitney tests and Spearman correlations were conducted with Bonferroni adjustments. No statistically significant group differences were found in any of the four outcomes. Psychological skills were positively associated with task orientation in both team (r_s = 0.646) and individual (r_s = 0.396) athletes after adjustment. Among team athletes, emotional intelligence was also positively associated with psychological skills (r_s = 0.581) and task orientation (r_s = 0.643). Ego orientation showed no significant associations with the other outcomes. These findings suggest an association between psychological skills and mastery-based goal orientation across both sport groups. However, limited reliability of some scores, purposive sampling, and the cross-sectional design warrant cautious interpretation.

Keywords: Female Athletes, Psychological Skills, Emotional Intelligence, Task Orientation, Ego Orientation

1 INTRODUCTION

Psychological assessment in sport examines how athletes prepare for competition, manage emotional experiences, and evaluate achievement. Psychological skills, emotional intelligence, and achievement goal orientation provide

complementary perspectives on these processes. Psychological skills concern strategies such as imagery, attention regulation, and goal setting; emotional intelligence concerns emotional appraisal, regulation, and utilisation; and goal orientation concerns the criteria used to judge competence and success [1,2,3]. Research linking psychological-skills use with emotional intelligence and achievement goals provides a basis for examining these constructs together while retaining their conceptual distinctions [4,5].

Psychological skills have been investigated as both characteristics reported by athletes and targets of performance interventions. Reinebo et al. [6] reviewed 111 studies of psychological interventions for competitive athletes, with 25 studies contributing to five meta-analyses. Initial analyses indicated benefits of psychological-skills training, imagery, and mindfulness- and acceptance-based approaches. However, the pooled effects were no longer statistically significant in sensitivity analyses excluding non-randomised studies and subjective performance outcomes. These findings support continued investigation of psychological skills while demonstrating that conclusions depend on research design and outcome measurement. They also distinguish the assessment of reported psychological skills from evidence that those skills improve objectively measured performance. The present study addresses the former through self-report assessment rather than evaluating an intervention or competitive performance.

The Unified Mental Skills Assessment Tool–6 (UMSAT-6) assesses focus and refocus, imagery, goal setting, energising, competitive anxiety, and recovery [3]. Its content therefore includes cognitive preparation, regulation of activation, and responses to competitive demands. These domains are relevant to the present comparison because athletes may report different combinations of skills even when participating in the same broad sport category. Nevertheless, a development framework does not establish that a total score has equivalent meaning across populations. The developer's scoring instructions and the internal consistency of the resulting scores require consideration when using the UMSAT-6 in a new setting. Accordingly, its corrected total score is treated as an exploratory indicator of psychological skills in the present study.

Emotional intelligence has also been examined in relation to athletes' psychological functioning. In a systematic review of 36 studies, Laborde et al. [7] identified associations between emotional intelligence and emotional experiences, physiological stress responses, psychological-skills use, and sporting performance. Most studies conceptualised emotional intelligence as a trait, and the review identified a shortage of longitudinal and experimental investigations. The authors also recommended further measurement validation and research across cultural contexts. This evidence supports examining emotional intelligence alongside psychological skills, but does not establish that higher emotional intelligence causes better performance or that findings transfer directly between populations.

Measurement differences are particularly relevant when interpreting this literature. Davies et al. [1] developed the Brief Emotional Intelligence Scale (BEIS-10) to assess appraisal of one's own and others' emotions, regulation of one's own and others' emotions, and utilisation of emotions. Their investigation supported a five-factor structure in student athletes and provided evidence of test–retest stability over two weeks. Consequently, the BEIS-10 represents several related emotional dimensions rather than an automatically unidimensional ability. Because it is a self-report instrument, its scores indicate perceived emotional tendencies and competencies. This qualification is necessary when comparing BEIS-10 findings with studies using other emotional-intelligence instruments or performance-based assessments.

A direct empirical connection between emotional intelligence and psychological-skills use was reported by Lane et al. [5]. Among 54 male athletes, psychological skills used during both practice and competition were associated with perceived emotional intelligence. Specifically, self-talk, imagery, and activation were related to appraisal of others' emotions and emotional regulation. This finding supports examining whether athletes reporting greater emotional competence also report stronger psychological skills. However, the male sample and the instruments used limit direct application to young adult female athletes assessed with different measures. The study also did not determine the direction of the relationship, leaving open whether emotional competence supports skill use, skill practice contributes to emotional competence, or both are associated with other sporting experiences.

Evidence involving female athletes further supports examining emotional functioning in sporting contexts. Berastegui-Martínez and Lopez-Ubis [8] evaluated a socioemotional programme among 37 professional female footballers using a quasi-experimental design with intervention and control groups. The programme comprised 20 sessions addressing emotional awareness, autonomy, emotional regulation, and team skills. Following the intervention, players reported improvements in emotional expression and perception, greater use of selected coping strategies, and less mental withdrawal during competition. These findings connect emotional competencies with coping among female athletes. Nevertheless, the small sample, nonrandomised design, and focus on professional football limit their application to athletes from other disciplines and competitive levels. The study provides a reason to investigate emotional functioning in female athletes without establishing differences between team and individual sports.

Achievement goal orientation provides a separate framework for understanding how athletes interpret success. Task orientation emphasises learning, effort, skill mastery, and personal improvement, whereas ego orientation emphasises demonstrating competence relative to others. Duda [2] found that task orientation among high school athletes was associated with beliefs that sport should encourage effort, cooperation, and mastery. Ego orientation was associated with beliefs concerning self-esteem and social status. These findings indicate that athletes' definitions of success may be associated with different interpretations of sporting participation. They also support distinguishing mastery-based and comparison-based achievement criteria when investigating their relationships with psychological skills and emotional intelligence.

Research on motivational profiles provides more direct evidence connecting achievement goals with psychological-skills use. Harwood et al. [4] studied elite young athletes and identified profiles combining different levels of task and ego orientation. Athletes with higher task and moderate ego orientation reported greater use of imagery, goal setting, and positive self-talk than athletes in selected comparison profiles. This finding suggests that psychological-skills use may relate to the combination of achievement orientations rather than to an undifferentiated motivation score. It also provides an empirical basis for examining task orientation in relation to psychological skills. However, the profile-based analysis and youth sample differ from the present study's examination of continuous scores among young adults.

Gregg et al. [9] extended this line of investigation by examining achievement goal orientation and athletes' ability to employ imagery. Athletes with high task orientation, whether accompanied by high or low ego orientation, reported greater ease in generating motivational general-mastery images and greater ability to experience the associated emotions than athletes with lower task orientation. These findings concern imagery ability rather than the full range of psychological skills, but they reinforce the rationale for investigating mastery-based achievement criteria alongside mental-skills measures. Together with Harwood et al. [4], this evidence suggests that the relationship with task orientation deserves separate examination rather than being obscured within a combined task–ego score.

The measurement structure of the Task and Ego Orientation in Sport Questionnaire (TEOSQ) supports this separation. Morales-Sánchez et al. [10] examined its digital version among 2,320 participants and supported the distinction between task and ego dimensions. Analysing these subscales separately allows researchers to determine whether psychological skills and emotional intelligence show different relationships with personal mastery and normative comparison. A summed score across both dimensions would not identify which achievement criterion accounts for an observed association or group difference. Separate scoring is therefore necessary for the present study's interpretation of goal orientation.

Sporting context may also be associated with athletes' psychological experiences. Team sports involve coordinated contributions to a shared competitive result, whereas individual sports principally evaluate an athlete's own performance. Van Yperen [11] found higher autonomy satisfaction among individual athletes and higher relatedness satisfaction among team athletes. These findings identify differences in psychological need satisfaction across sporting contexts, but they do not establish corresponding differences in emotional intelligence or achievement goals. Autonomy, relatedness, and goal orientation are distinct constructs. The findings therefore support investigating contextual differences while avoiding assumptions that either sport category necessarily produces a particular psychological profile.

Direct comparisons of team and individual athletes have produced differing findings across psychological outcomes. Kajbafnezhad et al. [12] compared 400 male athletes in Shiraz, Iran, and reported differences in psychological skills and athletic success motivation, but no statistically significant difference in overall emotional intelligence. Their assessment used the Ottawa mental-skills measure, the Bar-On Emotional Intelligence Inventory, and a measure of perceived sporting success. Although this study provides a relevant comparative precedent, athletic success motivation cannot be treated as interchangeable with separately measured task and ego orientation. Its male sample and different instruments also restrict direct generalisation to the present population.

More recent evidence also cautions against expecting uniform emotional-intelligence differences across sport categories. Kopp and Jekauc [13] examined 605 competitive athletes, including women and men, using the Trait Emotional Intelligence Questionnaire. Analyses controlling for age and gender found no overall association between emotional intelligence and sport categories. However, selected sporting characteristics were associated with particular dimensions, especially self-control. These findings suggest that broad classifications may conceal variation in specific emotional characteristics. They also demonstrate why evidence concerning one emotional-intelligence instrument or dimension should not be assumed to apply to every measure of emotional functioning.

Taken together, the reviewed studies provide clearer support for investigating associations among psychological skills, emotional intelligence, and achievement goals than for predicting consistent differences between team and individual athletes. Psychological-skills use has been associated with emotional intelligence [5], while task-oriented motivational profiles have been associated with imagery, goal setting, and self-talk [9,4]. Group-comparison findings, however, vary

across constructs and instruments [12,13]. The evidence reviewed does not establish how these relationships appear among young adult female athletes in Chengalpattu. A local study can therefore examine their applicability while recognising differences in participant characteristics, sporting settings, and measurement.

The present study examined psychological skills, emotional intelligence, and achievement goal orientation among female athletes aged 18–25 years participating in team and individual sports in Chengalpattu, Tamil Nadu, India. The original first hypothesis proposed positive associations among these constructs within each sport group, and the second proposed differences between sport groups. During revision, psychological-skills scores were recalculated using the developer's scoring key, and goal orientation was evaluated through separate task and ego subscales. These revisions clarified the operationalisation of the original questions and were not presented as newly prespecified hypotheses. The comparative cross-sectional design was intended to identify group differences and within-group associations, without attributing those patterns to a causal effect of sport type.

2 MATERIALS AND METHODS

A comparative cross-sectional study was conducted among female athletes from sports clubs and training academies in Chengalpattu, Tamil Nadu, India, using purposive sampling. Participants were recruited from January to March 2026 through a Google Forms survey shared by the primary researcher on social media and by email. Eligibility criteria included female sex, age 18–25 years, training at least three times per week, and participation in an official competition during the preceding year. Athletes participating concurrently in both sport categories, those with an injury or illness restricting participation, recreational-only athletes, and those submitting incomplete responses were excluded.

Sample size was calculated using $n = Z^2\sigma^2/d^2$, with $Z = 1.96$, $\sigma = 16.9$, and $d = 3.42$, giving a minimum of 94 participants. The assumed standard deviation was drawn from Ottawa-3 mental-skills scores reported by Kajbafnezhad et al. [12]. This provided an approximate estimate of precision for a single mean rather than power for group comparisons or correlations. Of the 100 participants recruited, 50 were team athletes and 50 were individual athletes. Two team athletes aged 26 years were excluded from the main analysis, leaving 98 participants: 48 team and 50 individual athletes. All 100 participants were retained for a separate sensitivity analysis.

Participants confirmed their eligibility and selected their sport category. Team sports involved coordinated performance toward a shared result, whereas individual sports primarily assessed each athlete's own performance.

Participants provided electronic informed consent before completing the demographic questions and questionnaires. Google Forms settings restricted submissions to one per account. Initials were collected instead of full names, and email addresses were removed from the research dataset. Data were used solely for research and stored in a password-protected file with a planned retention period of three years.

All questionnaires were administered in their original English versions without changes to wording or response options. Psychological skills were assessed using the 18-item UMSAT-6 short form, with responses ranging from 1 to 7 [3]. Items 6, 7, 9, 13, and 15 were reverse-scored using 8 − response. The corrected total ranged from 18 to 126 and was treated as an exploratory psychological-skills score. Domain means were calculated for focus/refocus (items 1, 7, and 13), imagery (3, 10, and 17), goal setting (4, 11, and 18), energising (2, 8, and 14), competitive anxiety (6, 9, and 15), and recovery (5, 12, and 16). Higher reverse-scored competitive-anxiety values indicated lower reported anxiety.

Emotional intelligence was assessed using the BEIS-10, which measures emotional appraisal, regulation, and utilisation [1]. Items were rated from 1 (strongly disagree) to 5 (strongly agree) and summed to obtain a total ranging from 10 to 50. Higher scores indicated higher self-reported emotional intelligence. Task and ego orientation were assessed separately using the TEOSQ [2,10]. Task orientation was the mean of items 2, 5, 7, 8, 10, 12, and 13, while ego orientation was the mean of items 1, 3, 4, 6, 9, and 11. Both subscales ranged from 1 to 5, with higher scores indicating stronger endorsement of the respective orientation.

Responses across the three questionnaire sheets were matched using researcher-confirmed row order and demographic information. Sport categories were coded as team = 0 and individual = 1. Confirmed demographic entry errors were corrected before analysis. All questionnaire responses were complete and within the expected ranges, and no records were identical across all demographic variables and questionnaire responses. Constant response patterns were retained, and no questionnaire responses were changed or imputed.

Data were analysed using IBM SPSS Statistics version 32.0. Descriptive statistics included means, standard deviations, medians, interquartile ranges, and observed ranges. Internal consistency was assessed using Cronbach's alpha for the full eligible sample and separately for team and individual sport groups. The Shapiro–Wilk test was used to assess normality. As several variables deviated from normality, two-sided Mann–Whitney U tests were employed to compare

the groups across four outcomes: corrected UMSAT-6 total, BEIS-10 total, task orientation, and ego orientation. The tests were conducted using asymptotic approximations with tie and continuity corrections. The smaller U statistic and group mean ranks were reported.

Effect sizes were calculated using signed rank-biserial correlations, with positive values indicating higher ranks among team sport athletes. Spearman's rank-order correlations were used to examine associations among the four outcomes separately within each group. Bonferroni corrections were applied to the four group comparisons and independently to the six correlations within each group. Statistical significance was set at an adjusted p value of less than .05. Correlation coefficients were not formally compared between groups. Sensitivity analyses were conducted by repeating the group comparisons using the complete dataset of 100 participants. Multiplicity adjustments and sensitivity analyses were incorporated during manuscript revision to assess the robustness of the findings.

3 RESULTS

The analysis included 98 female athletes: 48 team athletes and 50 individual athletes. Normality was checked using Shapiro–Wilk tests. Mann–Whitney U tests and Spearman correlations were used for group comparisons and within-group associations, respectively.

Individual athletes had slightly higher mean scores on all four outcomes (Table 1). Statistical comparisons are presented in Table 3.

Table 1: Descriptive statistics for the four outcomes

Measure	Group	M (SD)	Median (IQR)
UMSAT-6 corrected total	Team	78.77 (11.91)	80.50 (15.50)
	Individual	80.64 (9.17)	81.50 (11.00)
BEIS-10 total	Team	37.08 (6.04)	38.00 (10.25)
	Individual	37.26 (5.21)	38.00 (5.50)
Task orientation	Team	3.82 (0.76)	4.00 (1.04)
	Individual	4.11 (0.49)	4.07 (0.57)
Ego orientation	Team	3.27 (0.63)	3.25 (1.00)
	Individual	3.44 (0.68)	3.58 (0.83)

Note. Team n = 48; individual n = 50. UMSAT-6 totals include reverse-scoring. BEIS-10 scores are summed totals. Task and ego orientation scores are item means ranging from 1 to 5. IQR = interquartile range.

Internal consistency varied across measures and groups (Table 2). Task orientation had the highest alpha in the full sample (α = 0.796). Lower values were found for UMSAT-6 among individual athletes (α = 0.502) and ego orientation among team athletes (α = 0.505). UMSAT-6 domain alphas ranged from −0.006 to 0.695, with a negative value for focus/refocus, limiting interpretation of domain scores.

Table 2: Internal consistency of the study measures

Measure	Full sample (N = 98)	Team (n = 48)	Individual (n = 50)
UMSAT-6 corrected total	0.622	0.695	0.502
BEIS-10 total	0.733	0.787	0.669
Task orientation	0.796	0.829	0.697
Ego orientation	0.612	0.505	0.689

Note. Values represent Cronbach's alpha.

No statistically significant differences were found between team and individual athletes on any outcome, either before or after Bonferroni adjustment (Table 3). All effect-size confidence intervals included zero. H2 was therefore not supported; these results do not establish that the groups were equivalent.

Table 3: Group comparisons and effect sizes

Measure	Team mean rank	Individual mean rank	U	p	Adjusted p	Rank-biserial r [95% CI]
UMSAT-6 corrected total	47.01	51.89	1080.50	0.397	1.000	−0.100 [−0.329, 0.137]
BEIS-10 total	49.88	49.14	1182.00	0.901	1.000	0.015 [−0.217, 0.242]
Task orientation	43.99	54.79	935.50	0.059	0.238	−0.220 [−0.443, 0.011]
Ego orientation	44.69	54.12	969.00	0.100	0.401	−0.193 [−0.410, 0.038]

Note. Team n = 48; individual n = 50. The smaller U statistic is reported. Adjusted p values use Bonferroni correction for four comparisons. Positive rank-biserial correlations indicate higher team ranks. CI = bootstrap confidence interval.

Among team athletes, psychological skills were positively associated with emotional intelligence and task orientation. Emotional intelligence was also positively associated with task orientation. All three associations remained significant after Bonferroni adjustment. Among individual athletes, only the association between psychological skills and task orientation remained significant after adjustment. Ego orientation was not significantly associated with the other outcomes in either group (Table 4). H1 was therefore partially supported. These findings do not establish differences in correlation strength between groups.

Table 4: Spearman correlations within each sport group

Group	Pair of measures	r_s	p	Adjusted p
Team	Psychological skills and emotional intelligence	0.581	< 0.001	< 0.001
Team	Psychological skills and task orientation	0.646	<0 .001	< 0.001
Team	Psychological skills and ego orientation	−0.007	0.962	1.000
Team	Emotional intelligence and task orientation	0.643	<0 .001	< 0.001
Team	Emotional intelligence and ego orientation	0.213	0.146	0.874
Team	Task and ego orientation	0.262	0.072	0.430
Individual	Psychological skills and emotional intelligence	0.342	0.015	0.091
Individual	Psychological skills and task orientation	0.396	0.004	0.027
Individual	Psychological skills and ego orientation	−0.198	0.168	1.000
Individual	Emotional intelligence and task orientation	0.280	0.049	0.292
Individual	Emotional intelligence and ego orientation	−0.148	0.305	1.000
Individual	Task and ego orientation	0.126	0.383	1.000

Note. Team n = 48; individual n = 50. Psychological skills = corrected UMSAT-6 total; emotional intelligence = BEIS-10 total. Adjusted p values use Bonferroni correction for six correlations within each group.

The sensitivity analysis including all 100 participants produced the same conclusion for group comparisons. No significant differences were found in psychological skills (p = 0.394), emotional intelligence (p = 0.975), task orientation (p = 0.064), or ego orientation (p = 0.075).

4 DISCUSSION

This study examined psychological skills, emotional intelligence, and task and ego orientation among young adult female athletes participating in team and individual sports. No statistically significant group differences were found on any outcome, and this conclusion remained unchanged in the sensitivity analysis. Psychological skills were positively associated with task orientation in both groups after adjustment for multiple testing. Among team athletes, emotional intelligence was also associated with psychological skills and task orientation. These findings partially supported the hypothesis concerning associations among the constructs but did not support the hypothesis of sport-group differences.

The absence of a significant emotional-intelligence difference is consistent with Kajbafnezhad et al. [12], who reported no overall emotional-intelligence difference between male team and individual athletes. It also agrees with Kopp and Jekauc [13], whose study of competitive athletes found no overall association between emotional intelligence and sport categories after controlling for age and gender. However, their findings included differences in selected emotional-intelligence dimensions across particular sporting characteristics. The present BEIS-10 total may similarly conceal variation in specific emotional competencies. Agreement across these studies therefore concerns the absence of a detected overall difference, rather than evidence that emotional functioning is identical across sports. Differences in instruments and participant characteristics also prevent interpreting the present findings as a direct replication.

The psychological-skills finding contrasts with Kajbafnezhad et al. [12], who identified a significant difference between team and individual athletes. Several methodological differences may contribute to this disagreement. Their study involved 400 male athletes and used the Ottawa mental-skills measure, whereas the present study included 98 female athletes and used the UMSAT-6 short form. The measures cover related domains but cannot be assumed to produce interchangeable scores. The limited internal consistency of the present UMSAT-6 total also reduces confidence in interpreting the absence of a group difference. These findings do not establish a sex-based explanation for the contrasting results because neither study directly tested whether the association between sport category and psychological skills differed by sex.

Task and ego orientation also showed no statistically significant group differences. Although individual athletes had higher average scores, the estimates were insufficiently precise to establish a difference. For task orientation, the rank-biserial correlation was −.220, with a 95% confidence interval from −0.443 to 0.011. This interval includes both a potentially meaningful difference favouring individual athletes and a value close to zero. The result should therefore be interpreted as uncertainty about the group difference rather than evidence of equivalence. The same principle applies to the other outcomes, whose confidence intervals also included zero. Furthermore, because none of the comparisons was significant before adjustment, the absence of significant group differences cannot be attributed solely to the Bonferroni correction.

The clearest association across sport categories was between psychological skills and task orientation. This relationship remained significant in both team and individual athletes, suggesting that athletes who reported stronger psychological skills also placed greater emphasis on learning and personal improvement. The finding is consistent with Harwood et al. [4], who found greater use of imagery, goal setting, and positive self-talk among elite young athletes with higher task and moderate ego orientation. Gregg et al. [9] similarly reported that high task orientation was associated with greater ability to generate motivational general-mastery imagery. The present study adds preliminary evidence of this association in a local sample of young adult female athletes, although its cross-sectional design cannot establish whether task orientation encourages psychological-skills use or whether practising these skills reinforces mastery-based achievement criteria.

An alternative explanation is that the measures share some conceptual content. The UMSAT-6 includes goal setting, while task orientation concerns learning, effort, and personal improvement. Their association may therefore partly reflect related self-evaluations rather than an entirely independent relationship between constructs. Common self-report methods may also contribute to the observed correlations. The present analysis did not examine individual domains as predictors or test the structural distinction between the measures. Consequently, the findings support an association between the reported scores but do not identify the psychological processes responsible for it.

Among team athletes, emotional intelligence was positively associated with psychological skills (r_s = 0.581) and task orientation (r_s = 0.643). The psychological-skills association is consistent with Lane et al. [5], who linked emotional appraisal and regulation with self-talk, imagery, and activation among male athletes. One possible interpretation is that recognising emotional states helps athletes select strategies for managing competitive demands. Conversely, regular use of psychological strategies may support emotional regulation. Both explanations are plausible, but neither was tested here. The association between emotional intelligence and task orientation also suggests that emotional competencies and mastery-based achievement criteria may coexist within athletes' reported psychological functioning; it does not establish that one produces the other.

The corresponding associations among individual athletes were positive but did not remain significant after correction: psychological skills with emotional intelligence, r_s = 0.342, adjusted p = 0.091; and emotional intelligence with task orientation, r_s =0.280, adjusted p = 0.292. These results should not be described as demonstrating that emotional intelligence is relevant only to team athletes. As Gelman and Stern [14] explained, a significant result in one group and a nonsignificant result in another do not establish a difference between the groups. No formal comparison of correlations was conducted in the present study. Differences in score variability and reliability may also contribute to the observed pattern, particularly because the UMSAT-6 total had lower internal consistency among individual athletes.

Ego orientation was not significantly associated with the other outcomes in either group. This finding supports analysing task and ego orientation separately, but it does not establish that ego orientation is unimportant or detrimental. Harwood et al. [4] found greater psychological-skills use in a profile combining higher task orientation with moderate ego orientation, demonstrating that mastery and comparison-based achievement criteria can coexist. Moreover, a bivariate correlation cannot determine whether ego orientation has different associations at different levels of task orientation. The low internal consistency of ego orientation among team athletes ($\alpha = .505$) further limits interpretation of its near-zero or nonsignificant relationships.

Measurement quality is a central consideration in interpreting these findings. The UMSAT-6 total showed limited internal consistency, particularly among individual athletes, and the focus/refocus domain produced a negative alpha. This result indicates poor coherence among those domain items under the applied scoring procedure in this sample. It warrants further examination of item functioning and comprehension before domain-level conclusions are drawn. Task orientation showed comparatively stronger internal consistency, whereas BEIS-10 and ego-orientation estimates varied between groups. Schmitt [15] cautioned that coefficient alpha does not establish unidimensionality and should be interpreted in relation to the intended use of a score. Similarly, the five-factor structure reported for the BEIS-10 by Davies et al. [1] means that an acceptable total-score alpha alone does not demonstrate that its dimensions form a single construct in the present population.

The practical implications are therefore limited to assessment and further investigation. The present results do not justify selecting psychological interventions solely according to whether an athlete participates in team or individual sports. They instead support examining each athlete's reported skills, emotional experiences, and achievement criteria. Research involving female athletes provides a basis for further intervention studies: Berastegui-Martínez and Lopez-Ubis [8] reported improvements in selected emotional competencies and coping strategies following a programme for professional female footballers. However, their small quasi-experimental study does not establish that the same approach would benefit this population. More broadly, Reinebo et al. [6] found that initially favourable effects of psychological interventions were not consistently maintained in sensitivity analyses. The correlations reported here therefore identify relationships worth investigating, rather than evidence that changing one variable will improve another or enhance performance.

Several limitations restrict the conclusions. Purposive recruitment through an online survey in one district limits generalisability and introduces possible self-selection. Eligibility and sport category were self-reported, and specific disciplines, competition level, training history, and club or team membership were unavailable for adjustment. These omissions prevent examination of differences within the broad sport categories and possible clustering of athletes from the same setting. The sample-size calculation addressed precision for a single mean rather than power for the comparisons and correlations. The cross-sectional design prevents causal inference, and reliance on self-report introduces possible response-style and social-desirability effects. Finally, the exploratory UMSAT-6 total and uneven reliability across groups constrain the strength of substantive interpretations.

The study contributes preliminary evidence that psychological skills and task orientation are positively associated among young adult female athletes in both sport categories. Emotional-intelligence associations were also identified among team athletes, but their strength relative to individual athletes remains untested. Future studies should assess measurement properties in the target population, record sporting and training characteristics, and use larger samples to compare associations directly. Longitudinal designs and independently assessed behavioural or performance outcomes would help determine whether these relationships extend beyond athletes' self-reports.

5 CONCLUSION

These findings should be interpreted in light of the cross-sectional design, purposive sampling, self-report measures, and limited reliability of some scores. They support considering psychological skills, emotional intelligence, and achievement goals together when assessing athletes, but do not justify different interventions solely by sport category. Larger longitudinal studies with stronger measurement evidence are needed to clarify these relationships.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

All authors declare no financial or non-financial conflicts of interest.

Statement of ethical approval

Ethical approval was obtained from SRM Institute of Science and Technology, Chennai, Tamil Nadu, India.

Statement of informed consent

Electronic informed consent was obtained from all individual participants included in the study.

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