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PSYCHOLOGICAL PROFILES OF ELITE ATHLETES: A MULTIVARIATE ANALYSIS OF INDIVIDUAL AND TEAM SPORT PARTICIPATION

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Abstract : Psychological characteristics play an important role in athletic performance, emotional regulation, competitive readiness, and adaptation to sporting challenges. This study examines the psychological profiles of elite athletes participating in individual and team sports, focusing on five psychological dimensions: self-confidence, motivation, self-esteem, resilience, and aggression. The research is based on previously published findings involving 200 elite athletes from Telangana State, India, comprising 100 individual-sport athletes and 100 team-sport athletes. A secondary analysis framework is proposed to examine the collective contribution of these psychological variables to athlete profiles and to investigate potential differences associated with sport participation and gender. Previously reported descriptive statistics and univariate comparisons indicate relatively similar psychological scores across individual and team sports, with no statistically significant differences in the five dimensions. However, these findings do not establish whether the groups differ in their combined multivariate psychological profiles. A two-factor multivariate analysis of variance (MANOVA) is therefore proposed to evaluate the simultaneous effects of sport type, gender, and their interaction, subject to the availability of original athlete-level data. The study presents a methodological framework for integrating multiple psychological indicators and discusses the implications of multidimensional assessment for athlete development and psychological support. The proposed approach may help identify whether meaningful psychological patterns exist beyond individual-variable comparisons.

IndexTerms **- Elite Athletes, Psychological Profiles, Individual Sports, Team Sports, Self-Confidence, Motivation, Self-Esteem, Resilience, Aggression, MANOVA.**

I. INTRODUCTION

Psychological factors are fundamental components of athletic development and competitive performance. Although physical fitness, technical proficiency, and tactical preparation contribute significantly to sporting success, psychological characteristics influence athletes' ability to manage pressure, sustain motivation, maintain confidence, recover from setbacks, and regulate emotional responses during competition[1]. Consequently, sports psychology increasingly emphasizes the assessment of multiple psychological dimensions rather than relying exclusively on isolated psychological indicators[2-3].

Individual and team sports differ in their competitive environments, interpersonal demands, performance responsibilities, and decision-making processes. Athletes participating in individual sports often assume direct responsibility for competitive outcomes and must independently manage psychological pressure[4-5]. In contrast, team-sport athletes operate within a collective performance environment involving coordination, communication, shared responsibilities, and interpersonal relationships. These differences may influence psychological development, although their effects cannot be assumed to be universal[6].

Self-confidence, motivation, self-esteem, resilience, and aggression represent important psychological characteristics associated with athletic participation. Self-confidence reflects athletes' belief in their ability to perform successfully, while motivation influences effort, commitment, and persistence[7]. Self-esteem concerns individuals' overall evaluation of their personal worth. Resilience represents the capacity to adapt to adversity, setbacks, and competitive challenges. Aggression, depending on its definition and measurement, may reflect behavioral or emotional tendencies relevant to sporting interactions[8].

Previous investigations involving elite athletes from Telangana State have examined psychological differences between individual and team sports through descriptive statistics and separate statistical comparisons[9]. Although such approaches provide useful information about individual psychological variables, they do not directly establish whether athletes differ in their overall multidimensional psychological profiles[10].

A multivariate analytical approach offers a framework for examining several related psychological characteristics simultaneously. Multivariate analysis of variance (MANOVA) can evaluate group differences across a set of dependent variables while considering relationships among those variables. It can also investigate whether sport type and gender interact in their association with psychological outcomes.

Accordingly, the present paper proposes a multivariate examination of psychological profiles among elite athletes participating in individual and team sports. By integrating five psychological dimensions within a common analytical framework, the study seeks to extend the interpretation of previously reported findings and identify the additional evidence needed for a valid multivariate assessment.

1.1 Statement of the Problem

Existing research on elite athletes has frequently examined psychological characteristics individually. Although such investigations provide information about differences in specific psychological dimensions, they may not adequately capture the combined psychological characteristics of athletes participating in different sporting environments.

The central research problem is therefore to determine whether individual- and team-sport athletes exhibit different multidimensional psychological profiles when self-confidence, motivation, self-esteem, resilience, and aggression are considered simultaneously, and whether these profiles vary according to gender.

1.2 Objectives of the Study

i. To examine the psychological profiles of elite athletes participating in individual and team sports.
ii. To compare self-confidence, motivation, self-esteem, resilience, and aggression across sport participation categories.
iii. To investigate the combined association of sport type and gender with psychological characteristics using a proposed multivariate framework.
iv. To examine whether sport type and gender interact in their relationship with the five psychological dimensions.
v. To identify implications for psychological assessment, athlete development, and sport-specific psychological support.

1.3 Research Hypotheses

H01: There is no statistically significant multivariate difference in the combined psychological characteristics of elite individual- and team-sport athletes.

H02: There is no statistically significant multivariate difference in the combined psychological characteristics of male and female elite athletes.

H03: There is no statistically significant interaction effect between sport type and gender on the combined psychological characteristics of elite athletes.

These are proposed hypotheses, not hypotheses that have yet been tested through MANOVA.

1.4 Novelty and Contribution of the Research

The present study seeks to extend existing research on sports psychology by adopting a multidimensional approach to examine the psychological profiles of elite athletes participating in individual and team sports in Telangana State, India. Unlike conventional studies that evaluate psychological characteristics independently, the proposed research considers five interrelated psychological dimensions—self-confidence, motivation, self-esteem, resilience, and aggression—within an integrated analytical framework. The study further proposes to investigate the individual and interaction effects of sport participation type and gender on these psychological characteristics using Multivariate Analysis of Variance (MANOVA).

The anticipated contribution of this research lies in its integrated assessment of psychological characteristics within a region-specific athletic population and its potential to identify combined psychological differences that may not be evident through separate univariate comparisons. By extending previously published comparative investigations, the study aims to provide additional insights into multidimensional psychological assessment and contribute to the development of evidence-informed psychological support strategies for elite athletes.

II. Literature Review

Psychological characteristics are essential components of athletic performance, particularly among elite athletes who experience demanding training schedules, competitive pressure, and expectations of consistent performance. Researchers have examined several psychological dimensions, including self-confidence, motivation, self-esteem, resilience, and aggression, to understand athletes' behavioral responses, competitive readiness, and psychological adaptation.

Previous research has frequently compared athletes participating in individual and team sports. However, many studies have examined psychological characteristics separately, leaving opportunities for research that considers multiple related psychological variables simultaneously.

The present review focuses on the theoretical and empirical relationships between psychological characteristics and sport participation, with particular attention to the rationale for a multivariate analysis.

2.1 Psychological Characteristics of Elite Athletes

Elite athletes must maintain psychological stability while responding to competition-related challenges. Self-confidence influences perceived performance capability, motivation supports sustained effort, self-esteem contributes to self-evaluation, resilience assists adaptation to setbacks, and aggression may influence competitive behavior.

These psychological characteristics should not necessarily be regarded as independent. For example, an athlete's confidence may be associated with motivation, while resilience may support recovery from performance-related setbacks. Examining these characteristics collectively may therefore provide a more informative understanding of psychological profiles than separate comparisons alone.

2.2 Review of Related Works

Fletcher and Sarkar (2012), in their study entitled “A Grounded Theory of Psychological Resilience in Olympic Champions,” investigated the psychological factors contributing to resilience and optimal sporting performance among elite athletes. The researchers adopted a qualitative grounded theory approach involving 12 Olympic champions, comprising eight male and four female athletes from different sporting disciplines. Data were collected through interviews and analyzed using open, axial, and selective coding. The findings identified five major psychological factors—positive personality, motivation, confidence, focus, and perceived social support—that helped athletes withstand competitive pressure and manage stressful situations. The study further demonstrated that positive challenge appraisal and metacognitive processes played important roles in enabling athletes to respond constructively to adversity and maintain high-level performance. The authors concluded that psychological resilience is a multidimensional process involving the interaction of personal characteristics, cognitive mechanisms, and environmental support.

Research Gap: Although the study provides valuable insights into psychological resilience among Olympic champions, it employed a small qualitative sample and did not statistically compare individual- and team-sport athletes. Furthermore, it did not examine the combined effects of self-confidence, motivation, self-esteem, resilience, and aggression using multivariate statistical techniques.

Relevance to the Proposed Research: The study supports the importance of examining interconnected psychological characteristics among elite athletes. It provides a theoretical foundation for the proposed research, "Psychological Profiles of Elite Athletes: A Multivariate Analysis of Individual and Team Sport Participation," which aims to investigate multiple psychological dimensions simultaneously.

Laborde, Guillén, and Mosley (2016), in their study entitled "Positive Personality-Trait-Like Individual Differences in Athletes from Individual- and Team Sports and in Non-Athletes," investigated the relationship between sport participation and positive psychological characteristics. The study involved 1,200 participants from Spain, comprising 600 athletes and 600 non-athletes. Among the athletes, 280 participated in individual sports and 320 in team sports. The researchers examined five psychological characteristics: perseverance, positivity, resilience, self-esteem, and self-efficacy. Data were collected using standardized questionnaires and analyzed through Multivariate Analysis of Variance (MANOVA). The findings revealed that athletes demonstrated significantly higher positive psychological characteristics than non-athletes. Furthermore, individual-sport athletes exhibited higher overall positive psychological characteristics than team-sport athletes. The authors suggested that greater personal responsibility for competitive outcomes in individual sports might contribute to these differences. The study concluded that sport participation and sport type are associated with positive psychological characteristics, although its cross-sectional design did not establish causal relationships.

Research Gap: Although the study employed MANOVA to investigate multiple psychological characteristics, it did not examine the specific combination of self-confidence, motivation, self-esteem, resilience, and aggression proposed in the present research. Its Spanish sample also limits direct generalization to elite athletes in Telangana State, India.

Relevance to the Proposed Research: This study provides strong methodological support for using MANOVA to compare psychological profiles across individual- and team-sport participation. It also establishes an important precedent, meaning that the proposed research must demonstrate novelty through its specific psychological variables, population, and additional analytical findings rather than through MANOVA alone.

Gupta and McCarthy (2022), in their study entitled "The Sporting Resilience Model: A Systematic Review of Resilience in Sport Performers," systematically examined psychological resilience in sporting environments and developed an evidence-based conceptual framework for understanding athletes' responses to adversity. The researchers reviewed 92 studies encompassing quantitative, qualitative, mixed-method, theoretical, and review-based investigations. The study followed a systematic review methodology incorporating PRISMA guidelines to identify, evaluate, and synthesize existing research on resilience in sports psychology. The findings highlighted that sporting resilience is a dynamic and multidimensional process influenced by psychological, biological, and social protective factors. The authors proposed the Sporting Resilience Model, which explains how athletes respond to adversity through a biopsychosocial protective filter, psychological appraisal, adaptation, and recovery. The study concluded that resilience should be understood as an adaptive process rather than a fixed personality characteristic and emphasized the importance of integrating psychological and environmental factors in athlete development.

Research Gap: Although the study provides a comprehensive theoretical understanding of sporting resilience, it does not directly conduct a comparative multivariate analysis of self-confidence, motivation, self-esteem, resilience, and aggression among individual- and team-sport athletes. Furthermore, its proposed resilience model requires further empirical testing across different sporting populations and cultural contexts.

Relevance to the Proposed Research: The study provides a theoretical foundation for including resilience as an important psychological dimension in the proposed research, "Psychological Profiles of Elite Athletes: A Multivariate Analysis of Individual and Team Sport Participation." It also supports examining psychological characteristics collectively rather than treating resilience as an isolated factor. However, the proposed MANOVA would examine group differences, not directly validate Gupta and McCarthy's resilience model.

Lochbaum et al. (2022), in their study entitled "Revisiting the Self-Confidence and Sport Performance Relationship: A Systematic Review with Meta-Analysis," systematically investigated the relationship between self-confidence and athletic performance across different sporting disciplines. The researchers conducted a systematic review and meta-analysis of 41 studies published between 1986 and 2020, involving 3,711 athletes from 15 countries and 24 sports. The study employed random-effects meta-analysis to examine the overall relationship between self-confidence and performance and investigated the moderating effects of sport type, gender, performance measurement, and other study characteristics. The findings revealed a statistically significant but relatively small positive relationship between self-confidence and sporting performance ($r = 0.25$, 95% CI: 0.19–0.30). Furthermore, the relationship was stronger in individual sports ($r = 0.29$) than in team sports ($r = 0.14$). Differences were also observed between exclusively male and exclusively female samples, indicating that athlete sex may influence the confidence–performance relationship. The authors concluded that self-confidence is positively associated with athletic performance, although the strength of this association varies according to sporting and participant characteristics.

Research Gap: Although the study provides substantial evidence regarding the relationship between self-confidence and sporting performance, it primarily focuses on self-confidence as a single psychological construct. It does not directly examine the combined psychological profiles of athletes involving self-confidence, motivation, self-esteem, resilience, and aggression. Furthermore, its meta-analytic approach does not establish whether individual- and team-sport athletes differ in their overall multivariate psychological characteristics.

Relevance to the Proposed Research: This study provides empirical support for including self-confidence as an important psychological dimension in the proposed research, "Psychological Profiles of Elite Athletes: A Multivariate Analysis of Individual and Team Sport Participation." Its findings also justify considering sport type and gender as potential factors associated with psychological characteristics. However, the present research examines psychological profile differences rather than the relationship between self-confidence and actual sporting performance.

Volgemute et al. (2026), in their study entitled "Multi-Factorial Profiling of Athletes Integrating Personality, Psychological Skills, and Psychophysiological Performance Indicators," investigated the combined influence of personality traits, psychological skills, and psychophysiological characteristics on athletic functioning. The study involved 304 competitive athletes from Latvia, including male and female participants representing individual and team sports across elite, pre-elite, and amateur competitive levels. The researchers adopted a mixed-methods approach incorporating standardized psychological assessments, psychophysiological measurements, multivariate statistical analysis, and k-means clustering. The findings revealed significant differences in psychological and psychophysiological characteristics associated with sport type and competitive level. Cluster analysis identified four distinct athlete profiles: Stable High-Performance Athletes, Controlled Precision Athletes, Low-Regulation Reactive Athletes, and Reactive High-Speed Athletes. These profiles were further evaluated by nine sports psychology experts to establish their practical relevance. The authors concluded that multidimensional athlete profiling provides a more integrated understanding of psychological readiness, emotional regulation, and performance-related characteristics than examining individual psychological variables separately.

Research Gap: Although the study developed a multidimensional athlete-profiling framework, it was conducted among Latvian athletes and included participants from different competitive levels. It did not specifically investigate the combined characteristics of self-confidence, motivation, self-esteem, resilience, and aggression among elite athletes in Telangana State, India. Furthermore, its cross-sectional design limited causal interpretation and its applicability to different cultural and sporting environments.

Relevance to the Proposed Research: This study provides methodological support for examining multiple psychological characteristics simultaneously among individual- and team-sport athletes. It is particularly relevant to the proposed research, "Psychological Profiles of Elite Athletes: A Multivariate Analysis of Individual and Team Sport Participation," because it demonstrates the value of multivariate analysis in identifying psychological differences associated with sporting participation. However, the proposed research must establish a distinct contribution through its selected psychological variables, regional population, and valid statistical analysis, rather than claiming that multivariate athlete profiling itself is new.

Casanova et al. (2026), in their study entitled "The Psychological Characteristics Behind Talented Soccer Players: A Systematic Review with Meta-Analysis," systematically investigated the association between psychological characteristics and future talent-related performance among soccer players. The researchers followed PRISMA guidelines and conducted a systematic search of PubMed, Scopus, and Web of Science, identifying 4,015 records. Following screening and eligibility assessment, 12 longitudinal studies involving 3,748 soccer players across recreational to elite competitive levels were included. The researchers employed a random-effects meta-analysis to evaluate the relationship between psychological characteristics and subsequent sporting development. The findings indicated a small positive association between achievement motivation and future talent-related performance (Hedges' g = 0.198, 95% CI: 0.003–0.378), with substantial heterogeneity (I^2 = 78.5%). Other psychological characteristics, including mental toughness, grit, and resilience, could not be quantitatively synthesized because of insufficient and heterogeneous data. The overall certainty of evidence was rated very low. The authors concluded that individual psychological characteristics have limited and inconsistent predictive value when examined independently and recommended multidimensional, longitudinal assessment frameworks incorporating psychological, physical, technical, tactical, and contextual factors.

Research Gap: Although the study provides valuable evidence concerning psychological factors associated with soccer talent development, it focuses exclusively on soccer players and future performance outcomes. It does not directly compare the combined psychological characteristics of elite individual- and team-sport athletes. Furthermore, the study does not examine the specific combination of self-confidence, motivation, self-esteem, resilience, and aggression using factorial MANOVA.

Relevance to the Proposed Research: This study supports the rationale for examining multiple psychological dimensions among elite athletes. It is relevant to the proposed research, "Psychological Profiles of Elite Athletes: A Multivariate Analysis of Individual and Team Sport Participation," because it highlights the limitations of relying on isolated psychological indicators. However, the proposed study would investigate differences in psychological profiles rather than predict future sporting performance, and its cross-sectional design would not establish longitudinal relationships.

2.3 Research Gap

The reviewed literature identifies several areas requiring further investigation:

i. Context-specific evidence: Existing multivariate studies do not necessarily explain psychological patterns among elite athletes from Telangana State.
ii. Combined psychological dimensions: The proposed study focuses specifically on self-confidence, motivation, self-esteem, resilience, and aggression.
iii. Sport type and gender interaction: The joint association of sport participation and gender with these five psychological characteristics requires appropriate multivariate testing.
iv. Comparability of measurement: Differences in psychological instruments and scoring procedures complicate comparisons across studies.
v. Secondary-analysis limitations: Previously published descriptive results cannot substitute for the athlete-level data needed to estimate multivariate effects.

2.4 Summary of Literature Review

The reviewed studies establish that psychological characteristics are relevant to athletic participation, competitive adaptation, and performance. They also demonstrate that psychological characteristics can be examined using multidimensional analytical methods. Nevertheless, their findings differ according to the populations, variables, measurement instruments, and statistical techniques employed.

The present research proposes to extend the existing Telangana athlete studies through a combined analysis of five psychological characteristics. Its empirical contribution remains dependent on recovering the original dataset or obtaining sufficient verified multivariate statistics.

III. Research Methodology

3.1 Research Design

The proposed research adopts a quantitative, comparative, secondary-analysis design based on previously published studies of elite athletes from Telangana State. The intended analytical framework is a 2 × 2 factorial MANOVA involving two independent variables and five dependent variables.

3.2 Participants

The original studies involved 200 elite athletes, including 100 participants from individual sports and 100 from team sports. The sample reportedly included 100 male and 100 female athletes.

The exact distribution across the four sport-type-by-gender groups must be confirmed from the original publications or dataset.

Table 1: Study Variables

Variable type	Variables
Independent variable 1	Sport participation: Individual / Team
Independent variable 2	Gender: Male / Female
Dependent variable 1	Self-confidence
Dependent variable 2	Motivation
Dependent variable 3	Self-esteem
Dependent variable 4	Resilience
Dependent variable 5	Aggression

3.3 Statistical Analysis

Descriptive statistics, including means and standard deviations, are used to summarize the previously reported psychological characteristics.

If the original dataset becomes available, a factorial MANOVA will be conducted to examine the effects of sport type, gender, and their interaction. Preliminary analysis will assess multivariate normality, independence, covariance homogeneity, outliers, and correlations among dependent variables. Pillai's Trace and Wilks' Lambda may be examined, with the choice and interpretation informed by assumption checks.

IV. Results and Analysis

4.1 Descriptive Analysis of Psychological Characteristics

Table 2: Previously reported psychological characteristics of individual- and team-sport athletes (mean ± standard deviation).

Psychological variable	Individual sports	Team sports	Reported p-value
Self-confidence	28.03 ± 2.28	28.01 ± 2.02	0.948
Motivation	28.06 ± 2.30	28.31 ± 2.35	0.450
Self-esteem	25.95 ± 2.14	25.74 ± 2.16	0.491
Resilience	27.57 ± 2.20	27.99 ± 2.35	0.196
Aggression	28.19 ± 2.21	27.90 ± 1.98	0.329

Values reproduced from the previously discussed published findings; they should be checked against the final source tables before submission.

4.2 Comparative Interpretation

The previously reported results indicate that the mean self-confidence scores of individual- and team-sport athletes are nearly identical. Team-sport athletes show slightly higher mean motivation and resilience scores, whereas individual-sport athletes exhibit marginally higher self-esteem and aggression scores. However, none of the five reported comparisons reaches statistical significance at the 0.05 level. These findings suggest that the individual psychological dimensions examined in the earlier study do not demonstrate statistically significant differences between the two sport participation categories.

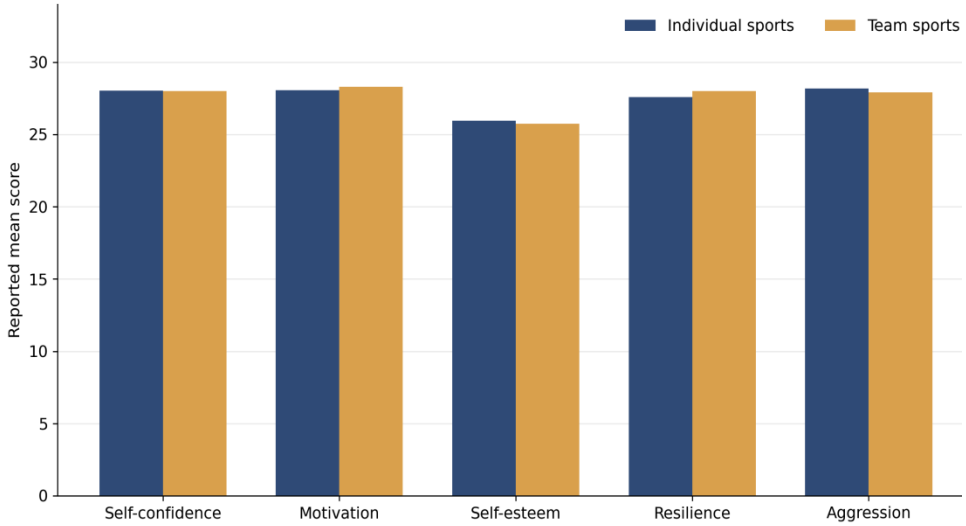

Figure 1: Comparative Analysis of Mean Psychological Scores among Elite Individual- and Team-Sport Athletes

The Figure 1 Individual- and team-sport athletes exhibit similar mean psychological scores. Team-sport athletes have slightly higher motivation and resilience scores, while individual-sport athletes have marginally higher self-confidence, self-esteem, and aggression scores.

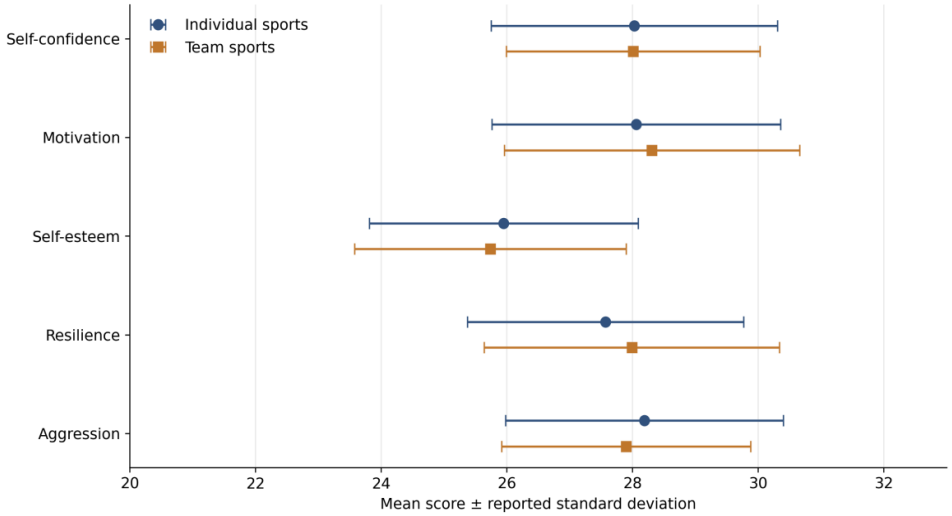

Figure 2: Mean and Standard Deviation of Psychological Characteristics among Elite Individual- and Team-Sport Athletes.

The figure 2 demonstrates substantial overlap in the reported variability of the two groups. The error bars represent standard deviations, indicating the spread of scores within each group rather than the precision of the estimated means.

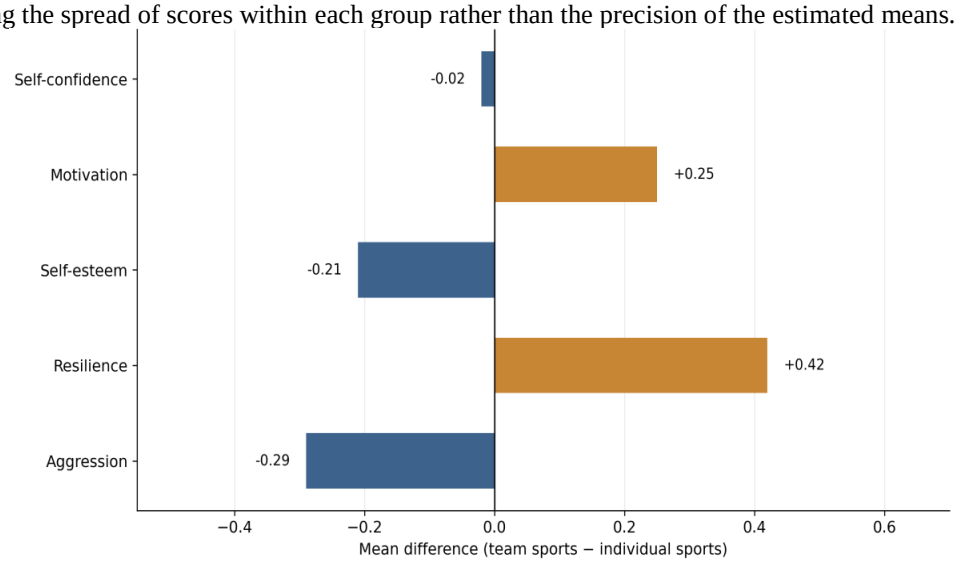

Figure 3: Mean Differences in Psychological Characteristics between Elite Individual- and Team-Sport Athletes.

The figure 3 Resilience exhibits the largest positive mean difference in favor of team-sport athletes (+0.42), followed by motivation (+0.25). Aggression exhibits the largest difference favoring individual-sport athletes (−0.29). These differences are descriptive and should not be interpreted as statistically significant effects.

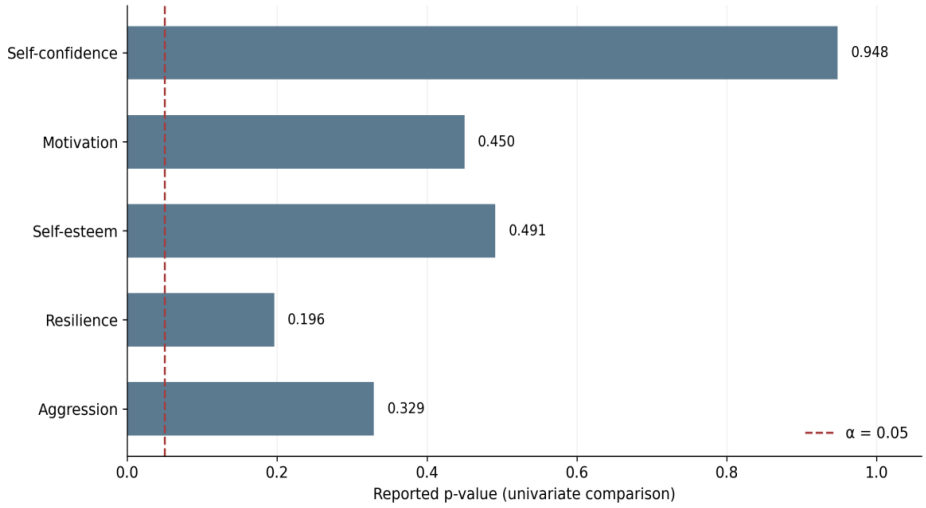

Figure 4: Statistical Significance of Psychological Differences between Elite Individual- and Team-Sport Athletes.

The figure 4 All five reported p-values exceed the conventional significance threshold of 0.05, indicating that none of the previously reported individual-variable comparisons was statistically significant.

The comparative analysis of psychological characteristics among elite individual- and team-sport athletes is illustrated in Figures 1–4. Figure 1 demonstrates that both groups exhibit relatively similar mean scores across the five psychological dimensions. Figure 2 presents the mean scores with their corresponding standard deviations, indicating considerable overlap in the variability of psychological characteristics between the groups. Figure 3 highlights relatively small mean differences, with team-sport athletes exhibiting slightly higher resilience and motivation scores, whereas individual-sport athletes demonstrate marginally higher aggression, self-esteem, and self-confidence scores. Figure 4 illustrates that all previously reported univariate comparisons are statistically nonsignificant ($p > 0.05$). These findings suggest that sport participation category alone does not distinguish the measured psychological characteristics in the reported analyses. Nevertheless, the absence of statistically significant univariate differences does not establish equivalence between the groups or exclude the possibility of multivariate differences. Further investigation using athlete-level data and appropriate multivariate statistical techniques is necessary to determine whether combined psychological profiles differ according to sport type and gender.

4.3 Proposed Multivariate Analysis

The multivariate results cannot be established from the published group means, standard deviations, and individual t-tests alone. The necessary covariance information and joint group data are not available in the current summary.

Table 3: Planned factorial MANOVA results

Effect	Pillai's Trace	F-value	p-value	Partial η^2
Sport type	Pending	Pending	Pending	Pending
Gender	Pending	Pending	Pending	Pending
Sport type × Gender	Pending	Pending	Pending	Pending

V. Discussion

The previously published findings suggest considerable similarity in the psychological characteristics of elite athletes participating in individual and team sports. Across the five psychological dimensions, differences in reported group means are relatively small, and none of the individual comparisons is statistically significant.

These observations may reflect the possibility that elite athletic participation involves psychological demands common to different sporting environments. Both individual- and team-sport athletes must maintain motivation, manage performance pressure, demonstrate confidence, and adapt to setbacks. Nevertheless, the available results cannot establish that their psychological profiles are equivalent.

The slightly higher mean resilience and motivation scores observed among team-sport athletes could be explored in relation to interpersonal support, shared competitive responsibilities, and collective sporting experiences. Similarly, the marginally higher mean aggression and self-esteem scores among individual-sport athletes could be investigated in relation to competitive responsibility and self-evaluation. These are possible explanations for future investigation, not conclusions established by the available data.

A multivariate approach could provide additional information by examining the combined variation of psychological characteristics. However, its value depends on the availability of appropriate data and satisfactory statistical assumptions. MANOVA is particularly relevant when multiple psychological outcomes are meaningfully related.

VI. IMPLICATIONS OF THE STUDY

The proposed framework highlights the importance of multidimensional psychological assessment in elite sport. Coaches, trainers, and sports psychologists may benefit from evaluating athletes across several psychological domains instead of emphasizing a single characteristic.

Such assessment could inform individualized psychological support, motivational interventions, confidence-building programs, resilience training, and emotional regulation strategies. However, the effectiveness of these interventions must be evaluated separately.

VII. CONCLUSION

The present paper develops a framework for examining the psychological profiles of elite athletes participating in individual and team sports through a multivariate perspective. Previously published findings indicate no statistically significant differences between sport participation groups in self-confidence, motivation, self-esteem, resilience, or aggression when these characteristics are examined separately.

However, the available evidence does not establish whether the combined psychological profiles differ according to sport type, gender, or their interaction. A factorial MANOVA using the original athlete-level dataset is necessary to address these questions.

The proposed framework provides a foundation for future multidimensional investigations and emphasizes the importance of evaluating psychological characteristics collectively in sports research.

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