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Agresión y perfiles de personalidad de los atletas en deportes de equipo e individuales: un análisis comparativo

Aggression and Personality Profiles of Athletes in Team and Individual Sports: A Comparative Analysis

Agressão e perfis de personalidade dos atletas em esportes coletivos e individuais: uma análise comparativa

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RESUMEN

Las características psicológicas, como la agresividad y la personalidad, son fundamentales para el rendimiento y el comportamiento deportivo; sin embargo, existe escasa evidencia empírica que compare estos rasgos entre atletas de deportes de equipo e individuales. El presente estudio tuvo como objetivo examinar comparativamente las diferencias en agresividad y determinados rasgos de personalidad entre atletas que practican deportes de equipo (balonmano y fútbol) y deportes individuales (gimnasia y natación), así como evaluar la asociación entre el tipo de deporte y las características psicológicas. Participaron en el estudio un total de 200 atletas (112 hombres y 88 mujeres), con edades comprendidas entre 20 y 25 años, con representación equitativa de deportes de equipo e individuales ($n = 100$ en cada grupo). La agresividad fue evaluada mediante el Inventario de Agresividad Deportiva y los rasgos de personalidad mediante la Prueba Específica de Personalidad Deportiva. Los datos se recopilaron en condiciones estandarizadas y se aplicaron pruebas t para muestras independientes para comparar las variables psicológicas entre los tipos de deporte. Los atletas de deportes de equipo mostraron puntuaciones significativamente más altas en sociabilidad ($t(198) = 2,56, p = ,011$), extroversión ($t(198) = 3,17, p = ,002$), convencionalismo ($t(198) = 2,40, p = ,017$) y agresividad ($t(198) = 5,83, p < ,001$) que los atletas de deportes individuales. No se observaron diferencias estadísticamente significativas en dominancia ($p = ,161$), autoconcepto ($p = ,211$), fortaleza mental ($p = ,130$) ni estabilidad emocional ($p = ,212$). Los hallazgos indican que los atletas de deportes de equipo e individuales difieren en determinadas características psicológicas, particularmente en sociabilidad, extroversión, convencionalismo y agresividad. Estas asociaciones deben interpretarse dentro del contexto más amplio de los entornos de entrenamiento y competición de los atletas, en lugar de atribuirse únicamente al tipo de deporte.

Palabras clave: Agresividad; Rasgos de personalidad; Psicología del atleta; Comportamiento deportivo.

ABSTRACT

Psychological characteristics such as aggression and personality are integral to athletic performance and behaviour, yet limited empirical evidence exists comparing these traits between team and individual sport athletes. The present study aimed to comparatively examine differences in aggression and selected personality traits between athletes participating in team sports (handball and football) and individual sports (gymnastics and swimming) and to assess the association between sport type and psychological characteristics. A total of 200 athletes (112 males and 88 females) aged between 20 and 25 years participated in the study, with equal representation from team and individual sports ($n = 100$ each). Aggression was assessed using the Sport Aggression Inventory and personality traits were measured using the Specific Sports Personality Test. Data were collected under standardized conditions and independent samples t -tests were applied to compare psychological variables between sport types. Team sport athletes demonstrated significantly higher scores for sociability ($t(198) = 2.56, p = .011$), extraversion ($t(198) = 3.17, p = .002$), conventionality ($t(198) = 2.40, p = .017$) and aggression ($t(198) = 5.83, p < .001$) than individual sport athletes. No statistically significant differences were observed for dominance ($p = .161$), self-concept ($p = .211$), mental toughness ($p = .130$), or emotional stability ($p = .212$). The findings indicate that team and individual sport athletes differ in selected psychological characteristics, particularly sociability, extraversion, conventionality and aggression. These associations should be interpreted within the broader context of athletes' training and competitive environments rather than being attributed solely to sport type.

Keywords: Aggression; Personality traits; Athlete psychology; Sport behaviour.

RESUMO

Características psicológicas, como agressão e personalidade, são fundamentais para o desempenho e o comportamento esportivo; contudo, há evidências empíricas limitadas que comparem esses traços entre atletas de esportes coletivos e individuais. O presente estudo teve como objetivo examinar comparativamente as diferenças na agressão e em determinados traços de personalidade entre atletas praticantes de esportes coletivos (handebol e futebol) e esportes individuais (ginástica e natação), bem como avaliar a associação entre o tipo de esporte e as características psicológicas. Participaram do estudo 200 atletas (112 homens e 88 mulheres), com idades entre 20 e 25 anos, com representação igualitária de esportes coletivos e individuais ($n = 100$ em cada grupo). A agressão foi avaliada por meio do Inventário de Agressão no Esporte, e os traços de personalidade foram medidos pelo Teste Específico de Personalidade Esportiva. Os dados foram coletados em condições padronizadas, e testes t para amostras independentes foram utilizados para comparar as variáveis psicológicas entre os tipos de esporte. Os atletas de esportes coletivos apresentaram pontuações significativamente mais elevadas em sociabilidade ($t(198) = 2,56, p = ,011$), extroversão ($t(198) = 3,17, p = ,002$), convencionalismo ($t(198) = 2,40, p = ,017$) e agressão ($t(198) = 5,83, p < ,001$) do que os atletas de esportes individuais. Não foram observadas diferenças estatisticamente significativas em dominância ($p = ,161$), autoconceito ($p = ,211$), resistência mental ($p = ,130$) ou estabilidade emocional ($p = ,212$). Os resultados indicam que atletas de esportes coletivos e individuais diferem em determinadas características psicológicas, particularmente em sociabilidade, extroversão, convencionalismo e agressão. Essas associações devem ser interpretadas no contexto mais amplo dos ambientes de treinamento e competição dos atletas, em vez de serem atribuídas exclusivamente ao tipo de esporte.

Palavras-chave: Agressão; Traços de personalidade; Psicologia do atleta; Comportamento esportivo.

INTRODUCTION

Sport is not merely a physical activity but a multidimensional phenomenon involving psychological, emotional and social processes that influence athletes' experiences and development (Ghildiyal, 2015; Lazarus, 2000; Opstoel et al., 2019; Wankel & Berger, 1990). Participation in sports demands not only physical fitness and technical proficiency but also a range of psychological characteristics that influence performance, behaviour and interpersonal interactions (Laborde et al., 2016; Travassos et al., 2012).

Among these psychological attributes, aggression and personality traits have received considerable attention due to their direct and indirect impact on athletic performance and conduct during competition (Allen et al., 2014; Allen & Laborde, 2014; Gyomber et al., 2016; Taily & Bhat, 2023).

Contemporary sport psychology research emphasizes that the sporting environment acts as a powerful socializing agent, shaping athletes' behavioural patterns, emotional regulation and personality development over time (Ivarsson et al., 2019; Nambron et al., 2026). Personality traits are relatively stable patterns of thinking, feeling and behaving; however, they are not entirely static and may be influenced by sustained engagement in specific types of sports. The Big Five personality framework of extraversion, agreeableness, conscientiousness, emotional stability and openness to experience, has been widely applied to understand individual differences among athletes and their adaptation to sport-specific demands (Peeters et al., 2006; Piepiora, 2021a).

Aggression is an important psychological variable in competitive sport; however, its expression should be distinguished from assertive behaviour. Assertive behaviour refers to forceful, intense and goal-directed actions performed within the rules of the sport and without an intention to harm an opponent. Such behaviour can serve a functional role in performance, particularly in sports involving physical contact and direct competition. In contrast, hostile aggression involves behaviour primarily motivated by anger and an intention to cause physical or psychological harm to another person. Instrumental aggression differs from hostile aggression in that aggressive behaviour is used as a means of achieving a performance-related goal rather than harm being the primary objective. Therefore, aggressive behaviour in sport should not be interpreted uniformly, as its function, intention and consequences may differ considerably across competitive situations (Oproiu, 2013; Taily & Bhat, 2023; Yang et al., 2023). The expression of aggression may also vary according to contextual characteristics of the sport, including physical contact, competitive intensity, rules and situational demands (Ekmekçi & Miçooğulları, 2018).

Empirical evidence suggests that the type of game played, whether team-based or individual, plays a significant role in shaping athletes' personality characteristics and aggression tendencies (Nia & Besharat, 2010; Peeters et al., 2006). Team sports such as football and handball emphasize cooperation, role clarity, communication and shared responsibility, which may foster traits such as sociability, extraversion and interpersonal adaptability (Ekmekçi & Miçooğulları, 2018). In contrast, individual sports such as gymnastics and swimming place greater emphasis on self-regulation, personal accountability, discipline and internal motivation, potentially contributing to higher levels of self-control, independence and emotional regulation (Kaplánová, 2019; Alqallaf, 2016; Piepiora, 2021b).

Comparative evidence suggests that aggression and certain personality characteristics may vary across sporting contexts, particularly according to the interpersonal and physical demands of participation (Aubé & Rousseau, 2011; Taily & Bhat, 2023). However, these differences should not necessarily be interpreted as direct consequences of sport participation, as athletes may also self-select into sports that correspond with their pre-existing psychological characteristics.

Personality traits and aggression are not only outcomes of sports participation but may also serve as important predictors of performance consistency, coping strategies and behavioural responses during competition. Systematic reviews have demonstrated that psychological factors such as emotional control, competitiveness and task orientation contribute to athletic performance and future success across sports contexts (Ivarsson et al., 2019). Understanding how these characteristics differ between athletes of team and individual sports can provide valuable insights for coaches, trainers and sport psychologists in designing targeted training and behavioural interventions.

Despite growing interest in this area, comparative research examining aggression and personality traits between team and individual sports within a unified framework remains limited, particularly when specific sports are

considered together. There is a need for empirical studies that systematically compare athletes from different sport types to clarify how the nature of the game influences psychological characteristics.

Therefore, the present study aims to comparatively examine differences in aggression and selected personality traits between athletes participating in team sports (handball and football) and individual sports (gymnastics and swimming). The study seeks to assess whether the type of sport played is associated with distinct psychological profiles, thereby contributing to a deeper understanding of the role of sport type in shaping aggression and personality characteristics among athletes.

It was hypothesized that significant differences would exist in levels of aggression and selected personality traits between athletes participating in team sports and individual sports. Specifically, athletes involved in team sports such as handball and football were expected to exhibit higher levels of aggression compared to athletes participating in individual sports such as gymnastics and swimming. Furthermore, it was hypothesized that athletes engaged in individual sports would demonstrate more favourable self-regulatory personality traits than team sport athletes, reflecting the distinct psychological demands and competitive environments associated with different types of sports.

MATERIAL AND METHODS

A comparative cross-sectional design was employed to examine differences in aggression and selected personality traits between athletes participating in team and individual sports. Sport type (team versus individual) served as the grouping variable, while aggression and the seven personality dimensions served as the outcome variables. Each participant completed both instruments during a single data-collection session under standardized conditions.

Participants

A total of 200 athletes aged 20–25 years participated in the study, comprising 112 males and 88 females. The sample included equal representation from team sports ($n = 100$) and individual sports ($n = 100$). The team-sport group consisted of athletes participating in handball ($n = 50$) and football ($n = 50$), whereas the individual-sport group consisted of athletes participating in gymnastics ($n = 50$) and swimming ($n = 50$). All participants had a minimum of three years of training experience in their respective sports. Participants were recruited from various training centres and colleges across the Delhi region.

Instruments

Sport type (team versus individual) was considered the grouping variable. The outcome variables were aggression and seven personality dimensions: dominance, sociability, extraversion, conventionality, self-concept, mental toughness, and emotional stability.

Sport Aggression Inventory. Aggression was assessed using the Sport Aggression Inventory developed by Srivastava & Shukla (1988). The instrument consists of 25 dichotomous items, comprising 13 “YES”-keyed and 12 “NO”-keyed items. The inventory has demonstrated good reliability ($r = .87$) and acceptable validity ($v = .84$), supporting its use for the assessment of aggression in sport settings (Tomar & Singh, 2012).

Specific Sports Personality Test. Personality traits were assessed using the Specific Sports Personality Test developed by Singh and Cheema (2005). The instrument consists of 100 items and assesses seven dimensions: dominance, sociability, extraversion, conventionality, self-concept, mental toughness, and emotional stability. Previously reported reliability coefficients across the subscales range from $r = .58$ to $.93$, while validity coefficients range from $v = .53$ to $.66$. The overall reliability ($r = .86$) and validity ($v = .64$) further support its use for assessing personality characteristics in sport participants (Singh & Singh, 2013; Kaur, 2019).

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Sample-specific internal consistency coefficients were not estimated because item-level response data were not available for the present analysis; therefore, the psychometric adequacy of the instruments was considered on the basis of previously reported reliability and validity evidence.

Procedure

Data collection was conducted under standardized conditions in a quiet and distraction-free setting. Participants were informed about the purpose and procedures of the study, and written informed consent was obtained prior to participation. Standardized instructions were provided to all participants before administration of the instruments. Participants first completed the Sport Aggression Inventory, followed by the Specific Sports Personality Test. Both instruments were completed individually, and participants were instructed to respond honestly and independently. All assessments were conducted under the researcher's supervision to maintain consistency in administration.

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki (World Medical Association, 2000; Bošnjak, 2001; Tyebkhan, 2003) and the Standards of Ethics in Research in Sport and Exercise Science (Harriss et al., 2019). Participation was voluntary, and written informed consent was obtained from all participants prior to data collection. Ethical approval for the study was granted by the Research Committee of the Department of Physical Education and Sports Sciences.

Statistical analysis

Data were analyzed using IBM SPSS Statistics. Descriptive statistics, including mean and standard deviation, were calculated for aggression and each personality dimension. Independent-samples *t*-tests were used to compare team and individual sport athletes on the study variables. All statistical tests were two-tailed, and the level of statistical significance was set at $p < .05$.

RESULTS

The study findings are presented in Tables 1 and 2; and Figure 1:

Table 1

Descriptive Statistics of Personality Traits and Aggression among Team and Individual Sport Athletes.

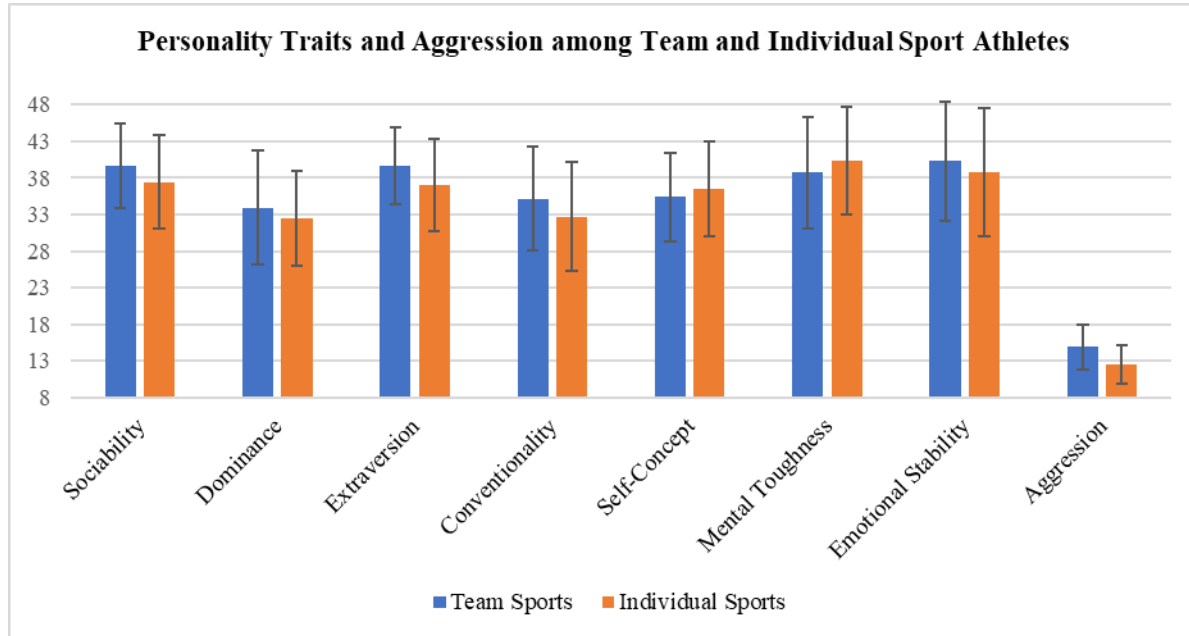
Variable		Team Sports (n=100) (Mean $\pm$ SD)	Individual Sports (n=100) (Mean $\pm$ SD)
Personality	Sociability	39.66 $\pm$ 5.82	37.44 $\pm$ 6.43
	Dominance	33.92 $\pm$ 7.76	32.50 $\pm$ 6.44
	Extraversion	39.58 $\pm$ 5.26	36.97 $\pm$ 6.32
	Conventionality	35.18 $\pm$ 7.16	32.70 $\pm$ 7.46
	Self-Concept	35.37 $\pm$ 6.02	36.48 $\pm$ 6.48
	Mental Toughness	38.69 $\pm$ 7.57	40.29 $\pm$ 7.32
	Emotional Stability	40.28 $\pm$ 8.13	38.78 $\pm$ 8.79
Aggression		14.94 $\pm$ 3.09	12.56 $\pm$ 2.67

Note: N= 200

Table 1 presents the descriptive statistics for personality traits and aggression across the two sport groups. Differences in group means were subsequently evaluated using independent-samples *t*-tests, as presented in Table 2.

Figure 1

Personality Traits and Aggression among Team and Individual Sport Athletes.



Note: Derived from Table 1. Error bars represent standard deviations.

Figure 1 illustrates the group means and variability for the personality traits and aggression presented in Table 1. Statistical significance of the observed group differences was determined using the independent-samples *t*-tests reported in Table 2.

Table 2

Independent Samples t-Test Comparing Personality Traits and Aggression between Team and Individual Sport Athletes

Variable		<i>t</i> -value	<i>df</i>	<i>p</i> -value	Mean Difference (Team Sports - Individual Sports)
Personality	Sociability	2.559	198	.011*	2.22
	Dominance	1.407	198	.161	1.42
	Extraversion	3.173	198	.002*	2.61
	Conventionality	2.398	198	.017*	2.48
	Self-Concept	-1.255	198	.211	-1.11
	Mental Toughness	-1.519	198	.130	-1.60
	Emotional Stability	1.252	198	.212	1.50
Aggression		5.826	198	< .001*	2.38

*Note: df = 198; values obtained from independent samples t-test. *p < .05 indicates significant difference.*

Table 2 presents the results of independent samples *t*-tests comparing personality traits and aggression between team and individual sport athletes. Statistically significant differences were observed for sociability, $t(198) = 2.56$, $p = .011$; extraversion, $t(198) = 3.17$, $p = .002$; conventionality, $t(198) = 2.40$, $p = .017$; and aggression, $t(198) =$

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5.83, $p < .001$, with team sport athletes demonstrating higher mean scores. No statistically significant group differences were observed for dominance, self-concept, mental toughness, or emotional stability (all $p > .05$).

DISCUSSION

The present study examined differences in aggression and selected personality traits between athletes participating in team and individual sports. The findings indicate that sport type is associated with specific psychological characteristics, particularly those related to social interaction and behavioural expression, while several core psychological traits appear to remain comparable across sport types. Team sport athletes demonstrated significantly higher levels of sociability, extraversion, conventionality and aggression compared to individual sport athletes.

These results are consistent with previous research suggesting that the social and interactive nature of team sports may be associated with stronger interpersonal personality characteristics. Allen et al. (2013) emphasized that team sport environments promote frequent communication, cooperation and shared responsibility, which are closely associated with higher sociability and extraversion. Similarly, Raharjo et al. (2018) reported that team sport athletes scored higher on socially oriented traits such as conscientiousness, self-awareness and ethics, attributing these differences to the cooperative and rule-governed nature of team environments. Mollazadeh et al. (2020), using the NEO Five-Factor Inventory, found that athletes in team sports scored higher on extraversion, agreeableness and conscientiousness, whereas individual sport athletes showed higher neuroticism and openness to experience.

The present findings support these perspectives by showing that athletes involved in football and handball, sports requiring constant interaction, exhibit stronger socially oriented traits than athletes in more solitary sports such as gymnastics and swimming.

The higher extraversion observed among team sport athletes aligns with theoretical frameworks suggesting that both self-selection into sport types and sport-driven personality development contribute to observed differences. Athletes with outgoing and socially confident dispositions may be drawn to team sports, while continued participation in such environments may further reinforce these traits over time.

The significant difference in conventionality, favouring team sport athletes, may be explained by the structured and rule-bound nature of team sports. Team athletes are required to adhere to coaching strategies, team roles and collective discipline. This is consistent with Laborde et al. (2020), who highlighted that personality traits in sport are relatively stable but expressed differently depending on environmental demands, with cooperation, discipline and conformity emphasized in structured, team-based settings. Nevertheless, the present cross-sectional design does not allow these potential mechanisms to be distinguished and the observed differences may also reflect factors such as coaching climate, training history, competitive experience and other characteristics of the sporting environment.

Aggression was found to be significantly higher among team sport athletes compared to individual sport athletes. This finding aligns with evidence indicating that aggression in sport is often instrumental rather than purely hostile, particularly in competitive and contact-based team sports. Football and handball involve direct physical confrontation, rapid decision-making and competitive pressure, which may encourage assertive and aggressive responses as part of performance demands.

Sakharova et al. (2025) similarly reported higher physical, verbal and indirect aggression among team sport athletes, suggesting that team environments may intensify aggressive responses due to competition for roles, social recognition and interpersonal dynamics. In contrast, the lower aggression scores observed among individual sport athletes may be associated with differences in self-regulatory demands, emotional control and personal accountability; however, these interpretations should be considered alongside differences in training history, coaching environment, competitive experience and athlete self-selection.

No statistically significant differences were observed between team and individual sport athletes in dominance, self-concept, mental toughness and emotional stability. Although individual sport athletes demonstrated slightly higher mean values for mental toughness and self-concept, these differences were not significant, suggesting that such traits may develop through sport participation itself rather than being sport-type specific. This aligns with findings by Raharjo et al. (2018) and Laborde et al. (2016), indicating that many psychological traits, particularly those related to emotional regulation and self-confidence, are commonly developed across a wide range of sports through regular training, competition exposure and performance challenges.

Overall, the present findings indicate that participation in the selected team and individual sports was associated with differences in certain personality traits and aggression scores, particularly those related to social interaction and behavioural expression. Team sport athletes demonstrated higher sociability, extraversion, conventionality and aggression scores, whereas no significant group differences were observed for dominance, self-concept, mental toughness, or emotional stability. These differences should not be attributed solely to sport type, as coaching climate, training history, competitive experience and athlete self-selection may also contribute to the observed psychological profiles. Overall, these findings are consistent with the study's aims and hypotheses and indicate an association between sport type, aggression and selected personality characteristics.

The findings of the present study should be interpreted in light of several limitations. First, the cross-sectional design does not permit causal conclusions regarding whether participation in particular sport types contributes to the observed psychological characteristics or whether athletes with certain characteristics are more likely to select particular sports. Second, the study was limited to athletes from four sports, that were, football, handball, gymnastics and swimming, recruited from training centres and colleges in the Delhi region, which may limit the generalizability of the findings to athletes from other sports, competitive levels, or geographical settings. Third, psychological characteristics were assessed using self-report instruments and may therefore be influenced by response-related biases. In addition, potentially relevant factors such as coaching climate, detailed training history and competitive experience were not examined and may contribute to differences in athletes' psychological profiles. Furthermore, sample-specific internal consistency coefficients could not be estimated because item-level responses were unavailable for the present analysis; future studies should evaluate the psychometric performance of the instruments within the specific athlete population being examined. Future research should employ longitudinal designs, include athletes from a broader range of sports and competitive levels and examine contextual factors such as coaching environment and training experience to clarify the relationship between sport participation, aggression and personality characteristics.

CONCLUSION

The present study showed that team sport athletes had significantly higher sociability, extraversion, conventionality and aggression scores than individual sport athletes, while no significant differences were observed in dominance, self-concept, mental toughness, or emotional stability. These findings suggest that coaches and sport psychologists should consider athletes' psychological characteristics when planning training and psychological support rather than assuming that all athletes have similar behavioural and interpersonal demands. In team-sport settings, particular attention may be given to the appropriate regulation and management of aggression within competitive environments. Psychological training should therefore be tailored to the characteristics and demands of athletes while also considering individual and contextual factors beyond sport type.

PRACTICAL APPLICATIONS

The findings of this study highlight the importance of sport-specific psychological approaches in athlete development. Team sport athletes, who demonstrated higher levels of sociability, extraversion, conventionality and aggression, may benefit from training programs that focus on regulating and channelling aggression into functional performance behaviours through communication skills, emotional control and team-based strategies. In contrast, athletes in individual sports, who showed relatively higher self-concept and mental toughness, may benefit from

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interventions emphasizing self-regulation, concentration and autonomous goal setting. Coaches, sport psychologists and physical educators can use these insights to design training environments and psychological support strategies that align with the distinct social and competitive demands of team and individual sports, thereby enhancing performance, behavioural control and long-term athlete development.

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