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Comparative analysis of extraversion personality traits among athletes in team sports and track and field

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Abstract

This study explores the extraversion personality traits of athletes from two distinct sports: a team-oriented sport, track & field, an individual sport. Extraversion is characterized by sociability, assertiveness, enthusiasm, and a high energy level, which are critical factors in how athletes interact with their environment and teammates. The main objective of the study was to compare the levels of extraversion among team sports and track & field athletes, understanding how these traits influence their performance in team and individual sport contexts. Using a quantitative research design, 100 male athletes aged 18–25 from Kerala participated in the study, equally divided between the two sports. The Eysenck Personality Questionnaire-Revised was administered to assess extraversion levels. Data analysis employed both descriptive and inferential statistical methods, including Analysis of Variance to identify differences in extraversion scores across the two groups. The results revealed minimal variation in extraversion scores, with mean values range and no significant difference found between volleyball and track & field athletes. These findings suggest that extraversion as a personality trait is consistent across different sports, irrespective of their team or individual nature. The study's implications offer valuable insights for coaches and sports psychologists, particularly in optimizing athlete selection and coaching strategies. Understanding personality traits like extraversion can help foster better team dynamics in volleyball and enhance individual motivation in track & field. Future research could explore other personality dimensions and factors influencing athlete behaviour and performance across various sports.

Keywords: Extraversion, personality traits, sports performance

1. Introduction

Sports have been an integral part of human culture, shaping individual and collective experiences throughout history. From ancient practices such as wrestling and archery, which evolved from survival skills to structured competitions, sports have continually adapted to reflect societal values. The Ancient Olympic Games marked a significant shift, transforming athletic activities into organized events that celebrated physical prowess, discipline, and cultural exchange. Over time, the organization and regulation of sports have emphasized their role in shaping identities and fostering community. Today, sports remain a source of entertainment, physical development, and an avenue for achieving excellence. Parallel to the evolution of sports, the study of personality has been a cornerstone of human understanding. Philosophers and thinkers have explored personality's origins and its influence on behaviour for centuries. Plato viewed the human soul as the foundation of personality, comprising three forces: reason, emotion, and appetite, with reason reigning supreme. The philosophical foundations have paved the way for modern psychology, which now integrates biological, psychological, and environmental factors to understand personality comprehensively. A key area of interest in modern psychology is how personality influences behaviour and performance, particularly in sports. Among the Big Five Personality Traits, extraversion has garnered significant attention for its impact on athletic performance. Extraversion is characterized by sociability, enthusiasm, assertiveness, and high energy. Extraverts thrive in social settings, displaying confidence, and taking initiative, which makes these traits highly relevant in athletic contexts. They often serve as vocal leaders, fostering team cohesion and motivating peers, both on and off the field.

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The manifestation of extraversion varies across sports, depending on the nature of the discipline. Team sports require constant communication, collaboration, and coordination. An extraverted volleyball player is likely to take charge during matches, offering vocal encouragement and strategic direction to teammates, which enhances team dynamics and performance. Conversely, individual sports such as track and field demand self-motivation and internal focus, though a sense of community remains important. Extraverted athletes in these disciplines may display outgoing behaviour in social settings but excel in the solitude of competition, leveraging their energy and enthusiasm to push personal boundaries. Comparing extraversion in volleyball and track and field athletes highlights the unique demands of team versus individual sports. While extraverted traits benefit both types of athletes, their expression differs significantly. Team sports rely on interpersonal engagement, whereas individual sports balance social interaction with personal drive. Recognizing these differences helps coaches, psychologists, and athletes optimize performance, improve team dynamics, and foster personal growth. The study of extraversion underscores the broader importance of personality in competitive sports. By understanding how traits like sociability and assertiveness influence behaviour, stakeholders can better support athletes in achieving their potential. This exploration bridges ancient philosophical inquiries with modern psychological applications, reflecting the enduring connection between personality and human endeavour, may exhibit both extraverted and introverted tendencies depending on the situation.

2. Importance of the Study

Analysing extraversion traits in athletes offers valuable implications for coaches, sports psychologists, and administrators. For a team sport demanding constant communication and collaboration, higher levels of extraversion may align with better performance. Conversely, Track & Field athletes, who primarily compete individually, may exhibit varying levels of extraversion that influence their focus and adaptability. This study provides critical insights into optimizing training, improving athlete selection, and fostering personal growth and effective team dynamics.

3. Objectives of the Study

1. To assess the levels of extraversion in team sports and Track & Field athletes.
2. To compare how extraversion traits impact performance in team-oriented and individual sports contexts.
3. To propose actionable strategies for leveraging personality insights in coaching practices.

4. Methodology

The study employs a quantitative research design, utilizing standardized personality questionnaires for data collection. A cross-sectional approach is adopted to ensure a representative sample of athletes across both sports categories. The analysis incorporates descriptive and comparative statistical methods

to identify trends and differences between the groups. Data collection specifically focuses on assessing the extraversion dimension of personality, using the Eysenck Personality Questionnaire-Revised (EPQ-R), a validated tool renowned for its reliability in measuring personality traits. This paper is exclusively centered on the extraversion aspect.

5. Selection of Subjects

The study involved male athletes aged 18–25, divided between Volleyball, Football, Basketball and Track & Field disciplines. Participants were selected from collegiate and professional settings in Kerala. Inclusion criteria required at least three years of active competition in their respective sports. Athlete selection was based on recommendations from coaches and voluntary participation, ensuring a motivated and relevant sample.

6. Collection of Data

Data collection utilized the EPQ-R questionnaire to measure extraversion. Before administration, the investigator conducted an introductory meeting with coaches and athletes to explain the study objectives and ensure clarity regarding the questionnaire's purpose. Confidentiality was assured, and participants were informed that they could request their individual scores. The questionnaires were completed in a controlled environment under the investigator's supervision to minimize distractions and ensure accuracy. Additional demographic details, such as age, experience, and competition level, were collected to contextualize the findings.

7. Selection of Test Items

The EPQ-R, developed by Eysenck H.J. and Eysenck S.B.G. in 1975, was selected due to its reliability and validity in assessing personality traits. Here the Scoring followed the guidelines provided in the EPQ-R manual and selected only extraversion. Each "correct" response was awarded one point, and scores exceeding 7 on the "lie" scale were excluded from further analysis to account for potential response bias.

8. Statistical Techniques

To analyse the differences in personality traits, specifically extraversion, among athletes participating in Track & Field and Volleyball a combination of descriptive and inferential statistical methods was employed. Descriptive statistics, including the calculation of the arithmetic mean (AM) and standard deviation (SD) of extraversion scores, were used to summarize the data distribution for each sport. Inferential statistics involved the use of Analysis of Variance (ANOVA) to determine whether significant differences existed in the mean extraversion scores among the groups. Post hoc analysis was planned to identify pairwise differences if ANOVA revealed statistically significant results; however, this step was unnecessary as the findings were non-significant. The threshold for statistical significance in all tests was set at $p < 0.05$.

8.1 Analysis of Data

Table 1: The descriptive statistics (AM and SD) and ANOVA results for extraversion scores across the four sports categories:

Variable	Sports	N	AM	SD	SV	SS	df	MS	F	P
Extraversion	Track & Field	260	13.55	3.03	BG	35.64	3	11.88	1.66	0.175ns
	Volleyball	225	13.94	2.82	WG	6853.06	956	7.17		
	Football	265	13.59	2.36	T	6888.70	959			
	Basketball	210	13.40	2.42						

ns: not significant ($p > 0.05$), **: significant at 1% level ($p < 0.01$)

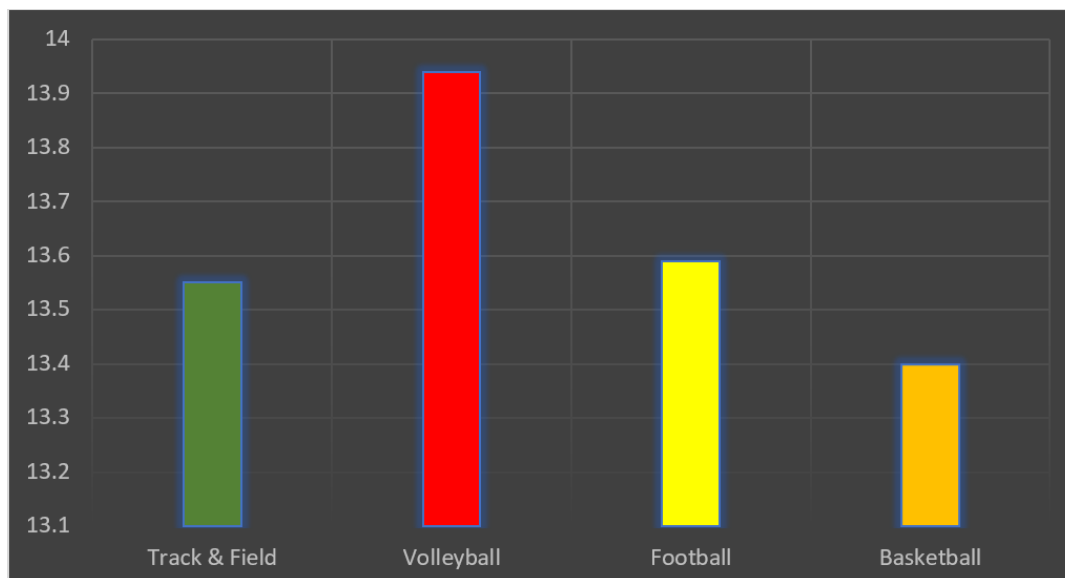


Fig 1: Graphical Comparison of Average Extraversion Scores across Various Sports

8.2 Findings

- The extraversion scores across the four sports categories showed minimal variation, with mean values ranging between 13.40 and 13.94.
- The ANOVA result ($F = 1.66$, $p = 0.175$) indicates no statistically significant difference in the extraversion levels among athletes of different sports.

This analysis confirms that the extraversion personality trait remains consistent regardless of the sport type, suggesting that team and individual dynamics do not significantly influence this particular trait.

9. Conclusion

The study analysed extraversion personality traits among athletes from Track & Field, Volleyball, Football, and Basketball using statistical tools such as ANOVA. The findings revealed no significant difference in extraversion levels across these sports ($p > 0.05$). This consistency suggests that extraversion as a personality factor is stable across varied sports contexts, irrespective of their team or individual nature. Future research could explore other personality dimensions or contextual factors that may impact athlete behaviour and performance in different sports disciplines.

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