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# An analytical study on athletes - Ability to cope with problem emotions across different sports

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#### Abstract

The present study investigates the Ability to Cope with Problem Emotions (ACPE) among athletes across four major sports disciplines: Track & Field, Volleyball, Football, and Basketball. Emotional competence, encompassing awareness, regulation, and adaptive coping with emotions, is a critical psychological skill that influences athletic performance, mental resilience, and interpersonal dynamics within teams. While physical fitness, skill development, and technical training are essential for athletic success, the effective management of problem emotions such as anxiety, anger, and frustration plays a pivotal role in sustaining performance consistency and maintaining mental well-being. This study adopts a descriptive-comparative research design involving 960 athletes, with participants selected based on active competitive involvement in their respective sports and availability during the study period. Emotional competence was measured using the Emotional Competence Scale through a standardized scoring procedure converting raw scores. Data collection was conducted personally by the investigator during training sessions, ensuring confidentiality, participant understanding, and accuracy of responses. Descriptive statistics, including mean and standard deviation, were calculated for each sports group, Oneway ANOVA analysis indicated a statistically significant difference in ACPE across the sports groups suggesting that sport type has a measurable effect on athletes' emotional coping abilities. The findings demonstrate that individual sports, such as Track & Field, may promote greater emotional resilience due to personal self-regulation demands, whereas team sports require collective emotional management, exposing athletes to higher situational stress. The study underscores the importance of integrating sportspecific psychological interventions, including emotional regulation, stress management, and resiliencebuilding strategies, alongside physical and technical training. These interventions can enhance athletes' performance, mental well-being, and overall career longevity. The results provide valuable insights for coaches, trainers, and sports psychologists aiming to develop tailored programs that strengthen emotional competence and optimize performance across diverse sports disciplines, ensuring holistic athlete development.

Keywords: Sports, emotional competence, Ability to Cope with Problem Emotions (ACPE), emotional resilience

#### 1. Introduction

Sports have been an integral part of human civilization since ancient times, serving not only as a means of physical development but also as a tool for social, psychological, and emotional growth. Participation in sports provides opportunities to enhance physical fitness, develop motor skills, foster teamwork, and cultivate discipline, while also engaging athletes in emotional experiences that significantly influence performance, well-being, and overall personality development. Physically, sports improve cardiovascular health, muscular strength, flexibility, and endurance, reducing the risk of lifestyle diseases such as obesity, diabetes, and hypertension. Psychologically, sports contribute to mental health by reducing stress, anxiety, and depression, while promoting self-regulation, focus, and perseverance, essential for personal and professional life. Socially, sports offer a platform for collaboration, communication, and conflict resolution, instilling values such as fair play, resilience, and empathy. Emotions, as complex psychological and physiological responses to internal and external stimuli, play a crucial role in sports by influencing thought processes, behaviour, and decision-making. Positive emotions such as joy, enthusiasm, and pride enhance concentration,

Corresponding Author: Dr. Charles A Joseph Associate Professor, Department of Physical Education, CMS College, Kottayam, Kerala, India energy, and persistence, while negative emotions like anger, fear, or frustration can interfere with performance. Emotional competence, which includes awareness, regulation, and coping with emotions, enables athletes to handle pressure, setbacks, and competitive stress effectively. Sports provide continuous challenges and opportunities for achievement, failure, and recovery, teaching athletes to recognize, understand, and regulate their emotional responses. Competitive environments enhance emotional resilience, motivation, and social-emotional skills, especially in team sports, by fostering communication, empathy, and cooperative problem-solving. Self-regulation and emotional control are developed as athletes learn to manage frustration, maintain focus under stress, and recover from fatigue. Failure and constructive feedback promote emotional maturity, teaching athletes to interpret setbacks as learning opportunities. The integration of physical and emotional health in sports is vital, as physical activity reduces stress hormones, improves mood, and enhances overall well-being, while emotional regulation contributes to focus, motivation, and social interactions. In conclusion, sports serve as a powerful medium for emotional development, teaching individuals to recognize, regulate, and express emotions effectively. Through experiences ranging from joy, pride, and excitement to disappointment, sports foster resilience, self-discipline, social skills, and motivation that extend beyond the playing field. By promoting both physical fitness and emotional competence, sports significantly contribute to overall well-being and personal growth, highlighting their indispensable role in education, personal development, and mental health. Athletic performance is not solely dependent on physical strength and skill; it is also deeply influenced by psychological factors, particularly the ability to cope with emotions. Problem emotions such as anxiety, anger, and frustration can undermine performance, disrupt focus, and negatively affect interpersonal relationships within teams. Emotional competence, specifically the ability to cope with problem emotions (ACPE), plays a crucial role in sustaining performance consistency and mental resilience in competitive sports. Different sports impose varying psychological demands. For example, Track & Field emphasizes individual resilience, while team sports such as Volleyball, Football, and Basketball require not only self-regulation but also emotional adjustment in collective settings. The present study seeks to examine whether ACPE differs significantly across these sporting disciplines.

# 2.0 Importance of the study

The present study holds significant importance in the field of sports psychology and athlete development. Understanding the Ability to Cope with Problem Emotions (ACPE) is critical for athletes, as emotional regulation directly affects performance consistency, focus, and resilience in competitive environments. By examining ACPE across different sports Track & Field, Volleyball, Football, and Basketball, this study provides insights into how the nature of individual versus team sports influences emotional coping strategies. The findings can help coaches, trainers, and sport psychologists design targeted interventions and training programs to enhance emotional competence, reduce performance anxiety, and promote mental well-being among athletes. Moreover, identifying sport-specific differences in emotional coping contributes to a holistic understanding of athlete development, ensuring that psychological skills receive attention alongside physical training for improved overall performance and longterm athlete success.

# 3. Significance and practical implications of the study

The study on the Ability to Cope with Problem Emotions (ACPE) among athletes is significant for multiple reasons. Emotional competence is a key psychological skill that affects not only athletic performance but also personal development, stress management, and interpersonal relationships within teams. By investigating ACPE across different sports disciplines Track & Field, Volleyball, Football, and Basketball this research highlights how the psychological demands of individual versus team sports shape athletes' emotional coping strategies. The findings offer practical insights for coaches, trainers, and sports psychologists. For instance, Track & Field athletes, who displayed slightly higher ACPE, may benefit from individualized mental conditioning programs that reinforce existing strengths. Conversely, team sport athletes, especially in Volleyball, where coping scores were relatively lower, can be guided through structured emotional regulation interventions, including stress management training, group cohesion exercises, and resilience-building techniques. Additionally, the study underscores the importance of integrating psychological skill development alongside physical and technical training. Incorporating emotional competence training into routine practice schedules can improve performance consistency, reduce anxiety during competition, and foster better team dynamics. Beyond performance enhancement, promoting ACPE also supports athletes' longterm mental well-being, which is increasingly recognized as vital in modern sports.

# 4. Objectives of the study

The present study was designed with the following objectives:

- 1. To assess the Ability to Cope with Problem Emotions (ACPE) among athletes participating in different sports disciplines, including Track & Field, Volleyball, Football, and Basketball.
- 2. To compare the levels of emotional competence among athletes across individual and team sports.
- 3. To identify statistically significant differences in ACPE scores among athletes of various sports using descriptive statistics and one-way ANOVA.
- 4. To provide insights for practical interventions, enabling coaches, trainers, and sports psychologists to design sport-specific programs aimed at enhancing emotional competence and mental resilience in athletes.

# 5. Methodology

The present study employed a descriptive-comparative research design to assess and compare the Ability to Cope with Problem Emotions (ACPE) among athletes participating in four major sports disciplines: Track & Field, Volleyball, Football, and Basketball. A total of 960 athletes were included in the study, comprising 260 from Track & Field, 225 from Volleyball, 265 from Football, and 210 from Basketball. The participants were selected based on their active involvement in competitive sports and availability during the study period. Emotional competence was measured using the Emotional Competence Scale developed by Sharma and Bharadwaj (1995) [1], which defines emotional competence as the efficiency to deal effectively with multiple interrelated psychological processes, combining five key competencies (Coleman, 1970) [2]. The scale uses a five-point Likert format with responses scored from 1 to 5, which were then converted to percentile scores, standardized as Z-scores, and finally transformed into T-scores using the formula T =

50 + 10Z. The overall emotional competence score was obtained by summing the Z-scores for the five competencies, while subscale scores were also analysed for interpretation of competencies. The questionnaires individual administered personally by the investigator, and prior to administration, meetings were held with coaches and athletes to explain the study's objectives and ensure participants' awareness and confidentiality. Data collection occurred during training sessions, with participants completing the questionnaires under supervision to ensure accuracy. For statistical analysis, descriptive statistics including mean and standard deviation were calculated for each group, while oneway ANOVA was used to examine significant differences in ACPE scores among the sports groups. Additionally, the coefficient of correlation was applied to assess interrelationships sub-factors of among competence. This methodology ensured the reliability and validity of the collected data, allowing for meaningful analysis and interpretation of athletes' emotional coping abilities across different sports.

# 5.1 Selection of subjects

The study involved 960 male athletes aged 18–25 years, representing four major sports disciplines: Track & Field (260), Volleyball (225), Football (265), and Basketball (210). Participants were recruited from both collegiate and professional settings across Kerala. Inclusion criteria required athletes to have a minimum of three years of active competitive experience in their respective sports. Selection was based on recommendations from coaches combined with voluntary participation, ensuring a motivated and relevant sample. Additionally, demographic details such as age, years of experience, and competition level were recorded to provide context for data interpretation.

#### 5. Collection of data

Data on athletes' Ability to Cope with Problem Emotions (ACPE) were collected using the Emotional Competence Scale (Sharma & Bharadwaj, 1995) [1], which measures key components of emotional competence. Prior to administration, the investigator conducted meetings with coaches and athletes to explain the study objectives, clarify questionnaire instructions, and ensure understanding. Confidentiality was assured, and participants were informed of their right to access individual scores. Questionnaires were completed under supervision in a controlled environment during training sessions to minimize distractions and ensure accuracy. This approach provided reliable data on athletes' emotional coping abilities, contextualized by their demographic information.

# 6. Data analysis and interpretation

The data collected on the Ability to Cope with Problem Emotions (ACPE) among athletes from Track & Field, Volleyball, Football, and Basketball were systematically analysed using descriptive and inferential statistics. The mean ACPE scores revealed that Track & Field athletes scored the highest (M = 18.60, SD = 3.44), followed by Football (M = 18.48, SD = 3.77), Basketball (M = 18.45, SD = 3.83), and Volleyball (M = 18.28, SD = 3.51). These results indicate that, on average, athletes across the four sports exhibited relatively similar levels of emotional competence, with only minor differences between individual and team sports. To determine whether these differences were statistically significant, a one-way ANOVA was conducted. The analysis yielded an F-value of 3.26 with a p-value of 0.021, indicating

a significant difference in ACPE scores among the sports groups at the 0.05 level. This suggests that while mean scores are closely aligned, the type of sport has a measurable effect on athletes' ability to cope with problem emotions. Track & Field athletes' slightly higher scores may reflect the individual nature of the sport, which demands greater personal resilience and self-regulation, whereas team sports such as Volleyball, Football, and Basketball require athletes to manage emotions in a collective, dynamic environment. Overall, the findings highlight that emotional competence is influenced not only by individual traits but also by the specific psychological demands of the sport. These results provide valuable insights for coaches, trainers, and sports psychologists in developing targeted interventions to enhance coping strategies and mental resilience among athletes, particularly in team-based sports where situational stressors may be more pronounced.

## 7. Statistical techniques

In this study, statistical analysis was employed to systematically evaluate the ability of Athletes to Cope with Problem Emotions (ACPE) across different sports disciplines, ensuring rigorous and meaningful interpretation of the data through both descriptive and inferential techniques. Descriptive statistics were used to summarize characteristics of the sample and the central tendencies of ACPE scores, with the Mean (M) representing the average emotional coping ability for each sports group and the Standard Deviation (SD) indicating variability within each group; for instance, Track & Field athletes scored slightly higher (M = 18.60, SD = 3.44) and Volleyball athletes slightly lower (M = 18.28, SD = 3.51). To determine whether these differences were statistically significant, a one-way Analysis of Variance (ANOVA) was conducted, comparing the between-group variability (SS = 128.14, df = 3, MS = 42.71) to the within-group variability (SS = 12526.42, df = 956, MS = 13.10), yielding an F-value of 3.26 and a p-value of 0.021, indicating significance at the 0.05 level. Additionally, the coefficient of correlation was applied to examine relationships among sub-factors of emotional competence, providing insights into how individual components of emotional coping interrelate and contribute to overall ACPE. The combination of these statistical techniques ensured clarity and rigor in analysis, allowing the study to quantify differences among athletes, test the hypothesis that sport type influences emotional coping ability, and offer meaningful conclusions for designing targeted interventions in sports psychology.

### 8. Data analysis and discussion of findings

Data analysis systematically applied statistical techniques to describe, condense, and evaluate the collected data. According to Shamoo and Resnik (2003) [7], proper analysis ensures that meaningful signals are distinguished from statistical noise, and misinterpretation of data is avoided (Shepard, 2002) [8].

 Table 1: Descriptive statistics of ACPE

Sport	N	Mean (M)	Standard Deviation (SD)
Track & field	260	18.60	3.44
Volleyball	225	18.28	3.51
Football	265	18.48	3.77
Basketball	210	18.45	3.83

The mean scores indicate that athletes across sports show a similar ability to cope with problem emotions, although minor

differences are observed, with Track & Field athletes scoring slightly higher and Volleyball athletes slightly lower.

Table 2: ANOVA results

Source of variation	Sum of Squares (SS)	df	Mean Square (MS)	F	p- value
Between Groups (BG)	128.14	3	42.71	3.26	0.021*
Within Groups (WG)	12526.42	956	13.10		

The one-way ANOVA indicates a statistically significant difference among the sports groups. Track & Field athletes scored the highest (M = 18.60), whereas Volleyball players scored the lowest (M = 18.28).

#### 9. Discussion

Although the mean differences are relatively small, the statistical analysis confirms that the type of sport influences emotional coping ability. Track & Field athletes may exhibit slightly better resilience due to the individual nature of the sport, which requires greater personal self-regulation. In contrast, team sports such as Volleyball, Football, and Basketball demand shared emotional regulation and may expose athletes to higher situational stress. These findings underscore the importance of sport-specific psychological training to enhance coping strategies, improve mental resilience, and optimize overall athletic performance.

#### 10. Conclusion

This study concludes that while emotional coping abilities are generally similar across sports, there is a significant difference, with Track & Field athletes demonstrating marginally higher ACPE. Coaches and sport psychologists should implement targeted emotional regulation interventions, particularly in team sports, to strengthen athletes' resilience and overall performance.

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