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**ORIGINAL ARTICLE**

# Emotional Intelligence, Stoicism and Athletic Performance among Amateur Athletes: The Moderating Role of Gender

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## ABSTRACT

**Background.** Regular training produces regular discomfort through pain, discomfort, and adverse conditions in sports. Hence, tolerance to pain sensitivity and focusing only on the controllable can be effectuated through stoicism. Athletes often take on stoic attitudes while managing their emotions, as the former teaches athletes to maintain their inner tranquillity, which helps them avoid impulsive reactions during competitions and helps them perform. Stoicism helps athletes tolerate the pain threshold as the former aligns well with the sports environment's demands, which can positively impact the athletes' performance through better self-control, adaptability, etc. In the prior literature, there have been inconsistent studies concerning which gender is stoic or emotionally intelligent; hence, exploring the moderating role of gender will give a nuanced perspective to the findings, and an intervention can be tailored based on the same. **Objectives.** In order to bridge this gap, the present research aims to study gender as a moderator between stoicism and emotional intelligence toward athletic performance. **Methods.** The sample of 453 athletes (Female=118, Male=335) from Delhi-NCR was determined with G*Power 3.1 software. A significant moderation effect was analyzed through the Hayes Process module, further followed by the Johnson-Neyman technique to probe interactions. **Results.** The findings concluded that male athletes who are emotionally intelligent and stoic are likely to perform better than female athletes. **Conclusion.** Hence, future suggestions have given strong evidence for developing intervention plans for the athletes.

**KEYWORDS:** ***Emotional Intelligence, Performance, Stoicism, Gender Moderation, Amateur Athletes.***

## INTRODUCTION

Sports is a complex environment accompanied by regular pain, discomfort, and career-ending injuries, to name a few. Despite these debilitating factors, athletes persevere towards long-term goals, such as nationals, Asian, Commonwealth Games, or even the Olympics. These observations raise two critical questions: are athletes able to focus without focusing on the uncontrollable, such as weather, noise, or competitor's peak performance, and are athletes able to manage their emotions during such complex environments which might trigger anger, frustration, hopelessness, and helplessness in them? Focusing on the controllable and being emotionally intelligent can help an athlete become aware and prudent while responding in a dynamic environment. To exemplify, a budding Olympic athlete might observe his/her competitor regularly posting strenuous workout videos on social media. However, instead of dwelling on feelings of jealousy, envy, or inferiority, the same budding athlete would work extra hours to achieve optimum performance. This can happen only when athletes are aware of their emotions through

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self-awareness and know what to respond to and what cannot be changed.

Performance is the end target for an athlete. Athletes' on-field performance is determined by the amalgamation of their off-field activities, such as diet, recovery, sleep, etc. An athlete's psychological profile plays a vital role in determining the performance of an athlete. For example, resilient athletes are likely to be grittier during challenging times like career-ending injuries. Stoic athletes are likely to focus on the moment rather than dwelling on the past or getting anxious about future mistakes. This mindfulness can enhance athletes' focus and improve their athletic performance, according to Irvine (2019). Furthermore, as reported by Janal (1996), the principles of stoicism help athletes adjust their mindset to different circumstances that might be uncertain.

Emotions are indispensable in determining athletic performance (1-3). Competitive sport is characterized by an emotion-laden environment (4, 5). "Emotions can be understood as a complex set of interactions among subjective and objective factors, mediated by neural-hormonal systems, which can a) give rise to affective experiences such as feelings of arousal, pleasure/displeasure; b) generate cognitive processes such as emotionally relevant perceptual effects, appraisals, labeling processes; c) activate widespread physiological adjustments to the arousing conditions; and d) lead to behavior that is often, but not always, expressive, goal-directed and adaptive" (6, 7). As prior research has explicitly stated, emotions influence performance by impacting perception, cognition, motivation, and behavior, which can enhance or debilitate performance (8, 9). Hence, sports psychology incorporates understanding emotions that can impact an athlete's performance (10). Sports psychologists use emotional intelligence as the most reliable construct for understanding the regulation and monitoring of emotions among athletes.

Emotional intelligence (EI) is defined as "the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others" (11). The EI concept was pioneered by Mayer and Salovey in the scientific literature in the 1990s and was popularized by Daniel Goleman (12). This concept has surpassed the overestimation of intelligence as emotional intelligence has proved more efficacious in succeeding (13). Prior research has proved that EI is the predictor of academic achievement, well-being, job satisfaction, and better health (14).

Another approach athletes use to stay in control is stoic principles, which work as the operating system for thriving in high-stress environments. Coaches and athletes may be unfamiliar with stoicism; however, all elite athletes practice it by bearing pain without complaint, staying in the moment, and controlling the controllable.

Athletes face numerous challenges in their day-to-day lives outside and within sports. The challenges can be financial, social, emotional, personal, and other, such as relationship issues, camp adjustment, injury, traveling, sponsors' availability, etc (15-17). However, performance is strongly influenced by emotions (18, 19). Athletes must interact with coaches and teammates to facilitate smooth conversation. In order to achieve optimal performance, athletes must work on their energy levels and emotions. Prior literature has witnessed the effects of emotional intelligence on team performance and individual performance across different sports such as cricket, basketball, tennis, ballet, etc (20-23). Crombie and his co-authors have analyzed the positive correlation between emotional intelligence and team performance of cricketers. The relation of emotional intelligence has been analyzed in athletic performance through the results of six studies (24, 25). However, since more rigorous and scientific work is required to establish its impact on performance, this paper documents the same along with other potential variables (26).

The modern notion of stoicism was introduced by Wagstaff and Rowledge (1995) (27). Furnham (28) defines stoicism as the non-involvement of emotional expressivity and indifference to death (29). The philosophical teaching of stoicism is practiced in non-western countries, including developing and developed countries (30-33). The vision of sport is consistent with the values of stoicism as per stoic philosopher (34). Winning is healthy; however, stoic philosopher focuses on the virtue part of the sport. Playing for fun becomes more important than just winning. As Seneca puts it, "To win true freedom, you must be a slave to philosophy …emancipated on the spot, the very service of philosophy being true freedom" (Letters VIII).

This encapsulates the development of virtue in sport. To exemplify this, if the boxer intentionally reacts angrily toward their opponent, the opponent will not retaliate but rather play productively (35). This can happen only when self-control is developed through exploring and regulating one's emotions (36-39). Hence, emotional intelligence and stoicism go hand in hand for better performance when optimizing emotions. From a stoic point of view, character development is more indispensable than just winning, as the former involves control of the values and character both on and off the field. Research has indicated gender differences in stoicism have been studied, where men tend to demonstrate stoicism more often than females; however, the literature has presented inconsistent studies concerning gender; hence, the need to explore the moderating role of gender is warranted (40, 41).

While the theoretical underpinnings of emotional intelligence and stoicism in sports on athletic performance are given considerable attention in a Western context, there is a notable gap in the literature regarding the Indian context. There is a dearth of research on emotional intelligence, stoicism, and performance concerning moderating the role of gender, which needs thorough empirical and scientific findings (see Figure 1).

Therefore, we put forth the following testable hypotheses:

a) There would be a significant moderating effect of gender on the relationship between stoicism and performance among amateur athletes.

b) There would be a significant moderating effect of gender on the relationship between emotional intelligence and performance among amateur athletes.

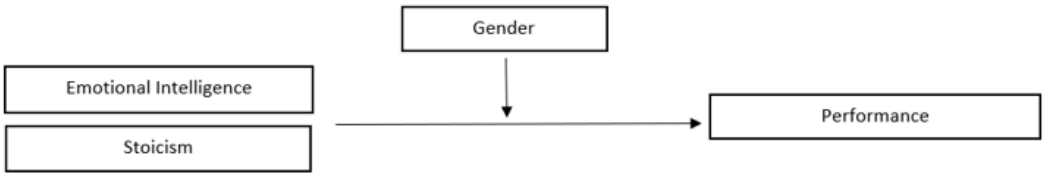


**Figure 1.** Proposed model (self).

## MATERIALS AND METHODS

**Participants and Procedure.** The university's ethics committee provided permission to conduct the research. They were told that the details would be fictitious and anonymous and that they could discontinue any time. Respondents were briefly informed about the purpose of the study, and informed consent was obtained from the athletes. The field investigator was the primary author of this research, who conducted a priori-prospective analysis to determine the sample size through G*Power 3.1 software (42). Overall, 453 participants were recruited, indicating that this sample size will enable us to identify a small effect of R2 increase of 0.05 (alpha=0.05). Convenient sampling was employed to recruit the participants.

Additionally, Google Forms were distributed through a QR scan-based developed android app. This study recruited participants from various Delhi-NCR stadiums, including Jawaharlal Nehru, Indira Gandhi Stadium, Tau Devi Lal Stadium, and Thyagaraj Stadium. They were approached to identify the athletes across different sports, such as weightlifting, track and field athletes, wrestling, and boxing. The average time for survey completion was about 20 minutes. Also, the technique used to perform moderation analysis was Johnson Neyman, which helped in understanding the statistically significant effects of the independent variable on the dependent variable by finding a cut-off point on the moderator. Respondents were between the ages of 18 and 29 years. The ethnicity of the athletes was Indian.

A total number of female participants were (n=118; 26%) whereas male participants were (n=335; 74%). The athletes were from different religions, such as Hinduism (n=318; 70.2%), Islam (n=9; 2%), Christianity (n=34; 7.5%), and Sikhism (n=92; 20.3%). The research sample comprised of athletes who had done their graduation (BA) were (n=129; 28.5%) more than master level graduates (n=48; 10.6%) and others (n=173; 38.2%), including 10th pass (n=103;

22.7%). The highest level at which athletes played were nationals (n=159; 35.1%), more than state (n=122; 26.9%), zonal (n=157; 34.7%), and international level players (n=15; 3.3%). Also, athletes with injuries were (n=214; 47.2%) compared to non-injured ones (n=239; 52.8%). Athletes from rural areas were (n=266; 58.7%) compared to urban areas (n=187; 41.3%). Lastly, athletes from individual games were (n=254; 56.1%) compared to team games (n=199; 43.9%).

**Measures.** Pathak-Wieten Stoicism Ideology Scale: Pathak and his co-authors developed it (43). It is measured using a 5-point Likert scale with the following responses: "disagree", "somewhat disagree", "not sure", "somewhat agree", and "agree". The responses are coded from 0 (disagree) to 4 (agree). The responses were recoded as -2 (disagree) to +2 (agree). Positive scores indicate stoic ideology, whereas negative scores indicate rejection of stoic ideology. The reliability and validity of the scale are sound and reliable.

Brief Emotional Intelligence Scale (BEIS): It was developed by Davies et al. (44) to assess emotional intelligence. It is measured on a 5-point Likert scale anchored from 1=strongly agree to 5=strongly disagree. Only one item is reversely scored. The reliability and validity of the scale are sound and reliable.

Athlete's Subjective Performance Scale (ASPS): To evaluate the satisfaction among athletes, the Athlete Subjective Performance Scale (ASPS) has been developed by Nahum and its co-authors (45). This scale measures six items about the performance satisfaction of athletes along with an extended one-item scale. This measure aims to understand general performance, team contribution, and personal ability. Although the scale was developed for team sports, with the author's permission, the 2$^{nd}$ and 4$^{th}$ items were removed to be used on individual sports.

**Statistical analysis.** Data was analyzed using SPSS software (version 22). The first step was initiated with descriptive statistics, which comprised the mean and standard deviation of the scores from each scale. Further, the interaction effect between the moderator and the independent variable was discerned through Hayes' Process v4.2 (46) to evaluate the moderation analysis. Since a significant interaction had been detected, a simple slope analysis was conducted with different dimensions of the moderator. Through Hayes' suggestions, the Johnson-Neyman technique was used to probe the interactions, which helped determine the moderator's score between statistically significant and non-significant effects of grit on PEDs.

## RESULTS

SPSS PROCESS (Hayes, 2018) has been used to study the moderating effects of gender on the association between stoicism, emotional intelligence, and performance.

Moderation analysis was conducted to determine whether gender moderated the relationship between stoicism and performance. The overall moderation accounted for 70% of the variance [$F(3, 449)=11.216$, $p<0.01$], and gender moderated the relationship significantly (see Table 1). Hence, hypothesis 1 is accepted. This indicates that gender indirectly impacts the relationship between stoicism and the performance of the athletes. The indirect effect of gender as a moderator enhances the independent and dependent variables, indirectly strengthening the relationship. As per the results interpreted, it has been found that male athletes who can focus on the controllable, such as their hard work, consistency for the training, and not engaging in doping, etc., rather than the uncontrollable, such as weather, noise, etc, are more likely to effectuate better performance as compared to female stoic athletes. The simple slope analysis demonstrated that male athletes who are stoic are likely to perform better than female athletes (see Figure 2).

Moderation analysis was conducted to determine whether gender moderated the relationship between emotional intelligence and performance. The overall moderation accounted for 96% of the variance [$F(3, 449)=15.951$, $p<0.01$], and gender moderated the relationship significantly (see Table 2).

Hence, hypothesis 2 is accepted. The indirect effect of gender as a moderator enhances the independent and dependent variables, indirectly strengthening the relationship. As per the results interpreted, it has been found that male athletes who can manage their emotions and be more mindful, such as during bouts when they encounter an aggressive competitor, instead of reacting, will choose to respond through technique and tactics are more likely to effectuate better performance as compared to female emotionally intelligent athletes. The simple slope analysis demonstrated that male athletes who are emotionally intelligent are likely to perform better than female athletes (see Figure 3).

**Table 1. Moderation effect of gender on the relationship between stoicism and performance**

| | B [95% CI] | SE | T | P |
|---|---|---|---|---|
| **Stoicism** | 0.13 (0.83; 0.17) | 0.02 | 5.39 | <0.001 |
| **Gender** | 0.40 (-1.23; 0.42) | 0.42 | 0.95 | 0.5172 |
| **Stoicism x Gender** | 0.08 (0.02; 0.19) | 0.05 | 1.44 | <0.001 |
| **$R^2$** | 0.70 | | | |
| **F(3, 449)** | 11.216 | | | |
| **P** | <0.001 | | | |

Dependent Variable: Performance

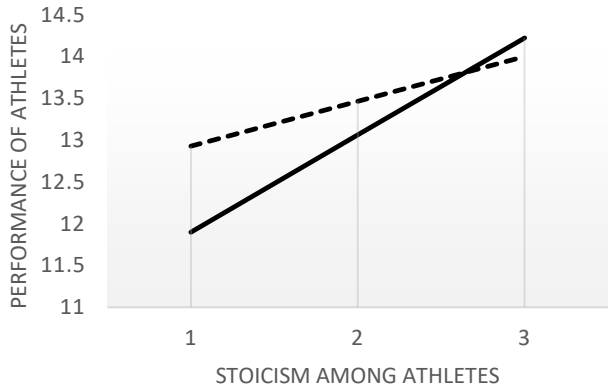


**Figure 2.** Simple slopes analysis of the moderating role of gender in the link between stoicism and performance.

**Table 2. Moderation effect of gender on the relationship between emotional intelligence and performance**

| | B [95% CI] | SE | T | P |
|---|---|---|---|---|
| **Emotional intelligence** | 0.21 (0.15; 0.27) | 0.03 | 6.51 | <0.001 |
| **Gender** | 0.46 (-1.23; 0.42) | 0.41 | 0.13 | 0.001 |
| **Emotional intelligence x Gender** | 0.06 (0.10; 0.22) | 0.08 | 0.74 | <0.001 |
| **$R^2$** | 0.96 | | | |
| **F(3, 449)** | 15.951 | | | |
| **P** | <0.001 | | | |

Dependent Variable: Performance

## DISCUSSION

The modern notion of stoicism was introduced by Wagstaff and Rowledge, who define it as emotional control, emotional non-involvement, and lack of emotional expressivity. Furnham holds a similar view of stoicism, defining it as rejecting or denying emotions. The construct of stoicism has not yet been studied as much (32, 35, 37). Therefore, it was intriguing to explore the same with the moderating effects of gender on performance in sports. The present research investigated the moderating role of gender on the relationship between stoicism and performance. The hypothesis is accepted as gender moderated the relationship between the incidence and outcome variable, wherein male athletes who are stoic are likely to perform better than female athletes. This aligns with previous research by scholars demonstrating gender differences in stoicism (27, 40, 41). According to them, men tend to demonstrate stoicism more often and intensively. Although, age differences in stoicism have not been investigated to date.


**Figure 3.** Simple slopes analysis of the moderating role of gender in the link between emotional intelligence and performance.

Emotional intelligence is of paramount importance in sports. Previous research by Lane and his co-authors suggests that athletes reporting high self-reported emotional intelligence scores tend to experience pleasant emotions. Emotional intelligence might help athletes recognize which emotional states help performance. Findings prove that trait emotional intelligence and cortisol secretion are essential in athlete responses to pressure situations.

The second hypothesis subjected to testing was that emotional intelligence would significantly moderate the relationship between emotional intelligence and performance. This hypothesis stands accepted as gender moderated the relationship between the incidence and outcome variable, wherein male athletes are more emotionally intelligent and likely to perform better than female athletes. This aligns with research by Arribas-Galarraga and his co-authors, who concluded that men scored higher than women in emotional control and regulation. However, some studies suggest further lines of research on emotional intelligence in sports according to gender (47, 48). However, studies by Merino and his co-authors (49) found differing levels of emotional intelligence among male and female athletes according to their competitive level; higher-level male athletes showed higher emotional intelligence than the lower levels, but higher-level female athletes demonstrated increased emotional awareness, and emotional clarity. It should be noted that higher emotional awareness scores are associated with excessive reactions to negative emotions (50) and poorer emotional adjustment (51). Our results support the idea that different strategies according to gender should be considered in the context of sports to improve performance-related emotional intelligence skills (52-55).

## CONCLUSION

Overall, the results suggested that gender does moderate between stoicism, emotional intelligence, and performance of amateur athletes. The present study highlights the importance of gender, which can impact the relationship between stoicism and performance. The results indicated that stoic male athletes are more likely to perform than stoic female athletes. Another finding of this study explicitly states that emotionally intelligent males are likely to deliver better performance than emotionally intelligent females. In the future, specific stoic-based interventions can be developed for budding athletes, which will help them to focus on what can be controlled and what cannot be, as they would not engage in rumination otherwise. Also, workshops on how to be more self-aware, which would make the athletes more emotionally intelligent, can be conducted in the future by SAI.

The present research acknowledges a few limitations, such as the study is a cross-sectional design focusing on self-reporting at one point, which could affect the causal relationship between the variables. This could result in standard method variance. The participants could have been recruited from different states of India. Also, only those participants who were proficient in the English language were recruited, which might have affected the quality of their responses.

The mixed method approach could have given an in-depth exploration of the phenomenon.

The primary contribution of this research is to identify gender as a moderator between stoicism, emotional intelligence, and performance. Practically, such understanding will enable coaches and sports psychologists to understand the importance of stoic principles and the need to regulate emotions. The same can be instilled in the athletes through an intervention. Consequently, this research does not alone advocate the contributing factor of the psychological constructs in promoting optimal performance. Other facilitators include proper diet, nutrition, sleep, cognitive and metacognitive skills for planning, regulation, etc. Furthermore, the current research findings could be utilized in developing nuanced psychosocial interventions and programs to help young elite athletes deal with emotions from the pressure of winning, enhancing their sports performance.

The current research would also help future researchers replicate the present study using longitudinal or qualitative research designs.

## APPLICABLE REMARKS

- Building an intervention plan that focuses on developing stoic principles and emotional intelligence among budding athletes is necessary.
- Provide the players with psychological skills through training and educational meetings that advocate the efficacy of stoic principles.
- The findings of this study must be provided to the Federation concerned with the game and the Olympic Committee.
- There is a necessity for workshops and training courses for workers in the sports field, particularly track and field and various sports.

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## AUTHORS' CONTRIBUTIONS

Study concept and design: Kashish Pandey. Acquisition of data: Kashish Pandey. Analysis and interpretation of data: Kashish Pandey. Drafting the manuscript: Kashish Pandey. Critical revision of the manuscript for important intellectual content: Kashish Pandey. Statistical analysis: Kashish Pandey. Administrative, technical, and material support: Kashish Pandey. Study supervision: Khusboo K.

## CONFLICT OF INTEREST

The strict absence of financial/ emotional / personal interest might have led to conflict.

## FINANCIAL DISCLOSURE

There are no financial interests related to the material in the manuscript.

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This study was self-funded by the authors of this research.

## ETHICAL CONSIDERATION

As the present study involved human participants for the survey method, the authors obtained informed consent from all the participants who participated in the research. Those who did not give their informed consent were not part of the inclusion criteria.

## ROLE OF THE SPONSOR

Since this study was self-funded, no funding organizations had a role in the design and conduct of the study, collection, management, and analysis of the data, or preparation, review, and approval of the manuscript.

## ARTIFICIAL INTELLIGENCE (AI) USING

The authors of the present study did not use any artificial intelligence-based software for adjustments of brightness, contrast, or color balance, nor did any involvement of AI-assisted imaging approaches to interpret the underlying research data used.

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