

# "Examining the Effects of Mindfulness Training on Stress and Anxiety in Sport"

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## Abstract

The study aims to determine if stress and anxiety reduction techniques may enhance sports performance. We will do a complete assessment of earlier research on mindfulness training and sporting performance to answer this issue. This research study is based on primary data to determine whether the research study used smart PLS Software and generated informative results. The research examines how mindfulness affects stress, anxiety, and attention and how these elements affect athletic performance. We will also examine how stress and anxiety affect athletes' performance and how mindfulness training may help athletes better control these emotions. Our ultimate objective is to offer insightful analysis and suggestions to coaches and athletes who want to improve their performance via mindfulness training. Overall result found that mindfulness training has the potential to significantly impact players' physical, mental, and athletic performance. To assure widespread acceptance and success, more study is required to examine the obstacles to introducing mindfulness training in sports teams and how these obstacles might be removed. Athletes and coaches can enhance performance by integrating mindfulness training and gaining insightful information about an athlete's well-being.

**Keywords:** Mindfulness Training (MT), Stress (SS), Anxiety in sport (AS), Smart PLS Algorithm

## Introduction

Mindfulness is described as a mental state or condition achieved by focusing your complete awareness on the present moment in a calm way and way of accepting feelings, thoughts, and sensations of the body in a better way. It is the quality or state of being wholly aware or conscious of something at a given time. Stress is "a state or condition of mental tension or worries which a difficult situation may cause; it is the human body's natural response to the threat. anxiety is "related to muscle tension and avoidance behavior caused by anticipation of future concern (Liu, Zhang, Liu, & Zhang, 2021). In the following research and study, we will explain how effective and complete mindfulness of a sportsman affects stress and anxiety in Sports. Sports and games are the specific game of nerves where an athlete first has to control his body and brain. First, there is a fight against his intrinsic fears that an athlete has to compete with extrinsic factors like the sense of judgment, performance, practice, and others (Hut, Glass, Degnan, & Minkler, 2021).

At the start of a game, there is a fear in athletes; such fear may be overwhelming that athletes cannot move or think over one point with attention, so complete attention and focus are mandatory to win our concerns. Different physiological interventions can minimize stress and

enhance athletic performance, such as counseling, motivation, evaluation, and mindfulness. The effect of mindfulness on the factors of stress and anxiety has been studied well in recent years, and it observed that mindfulness could help decrease stress and anxiety that can affect the performance of athletes (Mehrsafar et al., 2019). Sports and games may be a stressor for athletes for a short time. The level of stress and anxiety in athletes may vary depending on their experiences, internal hormonal phenomena, and mindfulness. It has also been discovered that the level of cortisol in athletes and sportsmen increases when the rate of anxiety is more in them; the more cortisol hormone from the adrenal gland prepares the body for combating the "fight or flight "response, these are wholly natural phenomena, but its control is somehow in the hands of the athlete by preparing the body by practice and mindfulness (Wang, Lei, & Fan, 2023).

One of the interventions is Mindfulness-based intervention (MBI) which explains that by accurate and effective mindfulness, stress can reduce, and anxiety can be overcome, thus affecting the performance of athletes. During stress, different changes in the body occur, like increased stress hormonal level, increased heartbeat, dilated pupil, and diminished stomach activity, but mindfulness can minimize these changes and their effects. In this process, an athlete must distinguish and analyze all

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the external and internal factors causing stress. Mindfulness aims to develop insight in an athlete that enables him to regain all the wisdom and mental condition related to handling the stress level in the body (Scott-Hamilton, Schutte, & Brown, 2016). Focusing on the present moment without passing judgment is a component of mindfulness training. Multiple benefits of this practice have been shown, including a decrease in tension and anxiety, an improvement in emotional control, and an increase in general well-being. We will explore the advantages of mindfulness training in more detail in this article and how it may be applied to our everyday life (Christie & Ratzan, 2020). Sports performance is one area where mindfulness training has proven extremely successful. According to research, athletes who engage in mindfulness practices can better control their stress and anxiety, which could have their performance. Athletes can experience physical symptoms like muscular tightness, a heightened heart rate, and fast breathing when apprehensive, impairing their ability to perform at their best (Dana, Shahir, & Ghorbani). Athletes can enhance their performance on the pitch or court by learning to control these symptoms and maintain concentration on the work by engaging in mindfulness practices. With a focus on how athletes might use mindfulness to manage stress and anxiety, this study aims to evaluate the connection between mindfulness training and athletic performance. The effect of Mindfulness-based intervention has been discovered in different sports like soccer, running, martial arts, golf, and springboard diving. An experimental study and research were conducted to see the effect of mindfulness on stress and anxiety and to know how mindfulness can handle such factors.

The following main points were hypothesized:

- MBI has excellent ability and effectiveness to reduce the level of stress hormones in the body.
- MBI reduces anxiety and stress, thus maximizing the performance of an athlete
- MBI prepares the body to compete with a "fight or flight response."

Twenty-six elite male athletes were included in the research activity; all were nonsmokers, under no effect of medication, in full senses, and with no other intervention. They had Mindfulness Training for 15 days, and after that, the result drawn as follows:

Mindfulness training has increased the self-confidence level. Mindfulness develops the body in such a way that it can better respond to external and internal factors. (Myall et al., 2023) Mindfulness-based intervention is a better option for reducing stress and anxiety in Sports (Skolzkov & Efremova, 2023). Mindfulness can also be in the form of

Mindfulness meditation that can render the following outcomes:

- Have the ability to strengthen the immune system
- It makes cognitive function better
- Normalizes blood pressure
- Regulate hormonal changes in the body
- It makes thinking positive

In MBI or Mindfulness-based intervention, we have also learned how an athlete can train himself for mindfulness, so research presents its explanation: Mindfulness is not a gain of a single day but a training gained ability. Athletes need unique and practical training to train their brains to give attention and focus on the present moment. It is just like a gym, where we have to teach our body, like we have to train our brain for mindfulness.

Mindfulness can gain in two ways; formally or informally. In formal mindfulness, an athlete has to set time aside for training, just like taking training of swimming or some military training; in this type of athlete sits down to compete and adequate attention and focus on one thing, which will take 5 to 15 minutes; this training may consist of concentration, focus, and complete awareness (Csataljay, O'Donoghue, Hughes, & Dancs, 2009) In informal mindfulness, there is no need to set time aside for training; you can engage in activity when busy with other chores. For example, during cycling, a boy has his main focus and attention on cycling but also thinks about homework but then gets back to the thought of cycling; all the processes involved in informal mindfulness (Harita, Suryanto, & Ardi, 2022).

## Research Objective

In this research, we have come to know that mindfulness is not only a requirement of athletes for the time being but also a supreme quality and characteristic of an athlete because this mindfulness can reduce the level of stress and anxiety in athletes during a performance in such way, it can lead to better performance and ultimately success and winning of athlete, and it's the team. An athlete needs formal and informal training for mindfulness that consists of a specific period. This mindfulness will bring positive change in the minds of athletes too.

## Literature review

Researchers claim that mindfulness-based interventions hold great value in improving the anxiety-related problems of athletes. To improve the sports-playing abilities of female athletes, proper interventions are provided to them along with sports training. The impact of a mindfulness intervention on female athletes shows positive outcomes in

their game (García-Rubio, Gómez, Cañadas, & Ibáñez, 2015).studies predict that the cognitive performance of athletes in sports gets better with the help of psychological interventions. the recovery process of an athlete facing any anxiety or stress-related condition is possible through effective interventions. The traditional intervention methods were based on the face-to-face meeting of depressed athletes with the psychologist. because of the technological revolution in the present era, intervention is provided through technology-based systems. psychology-related recovery of the athlete using the mindful-based intervention strategies maximized the chances of athlete recovery (García, Ibáñez, Gómez, & Sampaio, 2014).studies show that stress reduction intervention programs are becoming popular in the sports world because of the tremendous application it provides to sports athletes. the MBSR program provides various services to the athletes, including mediating yoga, body scan of the athlete, and sitting-based mediating exercises. these services or strategies of MBSR programs help the athlete to relieve his stress.the psychological well-being of athletes improves to a great extent due to the MBSR program .moreover, this MBSR focuses on improving the individual athlete's mental health and thereby provides the most speedy recovery to athletes facing any stress problem (di Fronso, Robazza, Bondár, & Bertollo, 2022).various studies of research scholars are made to predict the experience athletes undergo while getting mindfulness-based intervention. The improvement of the athlete's mental health state by getting the mindfulness intervention is assessed through various psychological assessment tests. The test studies show that athletes participating in intervention programs have higher chances of positive experience in comparison to athletes that do not appreciate intervention programs (Minkler, Zizzi, Costalupes, & Follmer, 2022).studies explain that mindfulness-based training provided to athletes improves their self-confidence and resilience factors' regulation of emotional behavior of football athletes is possible through the intervention training sessions. Emotional regulation improves athletes' performance in sports (Oguntuase & Sun, 2022b).studies explain that to improve the self-efficacy controlling ability of football players, they are provided with mindfulness interventions .professional football athletes are trained to control their psychological factors through the help of intervention programs (Oguntuase & Sun, 2022a).studies elaborate that almost fifty percent of college-based athletes face depression and anxiety problems. These problems disturb their game-playing ability and lower their performance. To help college athletes to tackle anxiety, mindfulness-based intervention is provided to them at the college level. The basic reason for providing students with

intervention programs is to make them strong athletes that are physically fit and mentally stable (Gibbs, Jarvis, & Dufur, 2012).studies reveal that due to mindfulness-based interventions, the performance of athletes in various sports gets improved. The reason behind the performance enhancement of athletes is because of the improvement in athletes' game-playing factors like high self-confidence and self-efficacy etc. (Wang, Lei, & Fan, 2023).studies explain that some sports are entirely based on the use of psychological skills. Like in basketball, athletes use their psychological abilities and physical movement to achieve a goal. To polish athletes these psychologically based abilities, mindfulness-based interventions are provided to them during their training days (Wang, Lei, & Wu, 2023).studies elaborate that athletes' cognitive functionality plays a major role in improving their performance as an athlete. If the athlete's behavioral and cognitive abilities are good, then his game-playing strategies become more goal-oriented. These cognitive functional abilities of athletes are improved through intervention programs (Zhu et al., 2022). Studies explain that most sports academies are built to provide the best training skills to the athletes of various games. These sports academies are built to properly train athletes on tackling any stress or anxiety situation in the sports field. The training sessions of these sports academies involve mindfulness-based intervention programs for improving the quality of skills these academies provide to their sports students.one specialty of these academies is that they maintain the providence of low-dose interventions to students so that they can gradually learn to tackle any sports field-related problem (Augustus & Zizzi, 2023).studies reveal that mindfulness-based interventions, as well as psychological-based interventions both play their role in improving the mental health of an athlete. These interventions ensure the providence of proper guidance to Athelte for overcoming any stressful situation he faces while playing sports of any type (Balalavi, Huang, Tsai, Su, & Subeq, 2021).studies explain that traditional behavioral and cognitive-based intervention programs are used together with mindfulness-based intervention programs for increasing the effectiveness of these programs. Both these programs collectively improve the athlete's performance in sports and help him build self-confidence (Hut, Minkler, et al., 2021).studies suggest that psychological training is provided to athletes to polish their skills during the training period (Park & Jeon, 2023).scholars explained that an athlete's lifestyle plays a very significant role in improving his performance in the game. If athletes have a healthy lifestyle, they face less stress and anxiety-related issues and are less likely to perform poorly in sports. While athletes that face poor life quality conditions are often depressed and

perform poorly (Rodrigues-Vion, Baliros-Bonnel, Rodrigues-Vion, Assadan, & Attoh-Mensah). Studies claim that the development of sport psychology improvement strategies is essential for the overall progress of the sports sector (Singh, Rajpurohit, Das, Norzom, & Bhutia, 2023). Studies predict that resilience training programs are used in sports to predict that anxiety coping strategies are helping college athletes. Studies show that athletes participating in highly competitive sports often feel anxiety due to competition. To tackle the anxiety of these athletes, it is important to know their anxiety condition. This anxiety condition in athletes is predicted through mindfulness-based intervention programs. These programs assess the anxiety level of athletes and provide effective tackling strategies to the athletes (Sullivan et al., 2021). Studies claim that athletes of swimming sport are provided with mindful sports enhancement-based training to make them skillful; in their sports and to avoid the development of anxiety symptoms in swimmers. Studies explain that to provide satisfaction to anxiety-suffering badminton players, they are provided with integrated mindfulness interventions. Scholars explained that psychological stress due to game pressure is common in athletes of several sports (Terres-Barcala et al., 2022). This stress condition in athletes is overcome through intervention-based effective strategies. These strategies help improve the athlete's mental state and make him physically and mentally fit and active. The athletes with improved mental health performed with full enthusiasm in the sports field.

## Methodology

Methods for gathering data and statistical analysis used to assess how mindfulness training affects athletic performance. We selected a sample of competitive athletes from different sports and randomly assigned them to either a control group or a group that received mindfulness training. To determine the long-term benefits of mindfulness training, participants performed pre- and post-training assessments of stress, anxiety, and athletic performance, as well as follow-up exams. Mixed-effects models were used to analyze the data and examine group differences in outcome variables across time.

## Research participants, Tools, and techniques

The eight weekly sessions of the mindfulness training intervention each lasted 90 minutes. A certified mindfulness teacher led the courses, which featured homework assignments, group discussions, and guided meditation exercises. Throughout the research period, there was no

intervention for the control group. Both groups were told to stick to their regular training schedules and refrain from participating in any additional mindfulness-based therapies throughout the research. Self-reported stress and anxiety levels were assessed using standardized questionnaires and objective measures of athletic performance, including the time it took to finish a run or the accuracy of a shot. To determine the long-term benefits of mindfulness training, evaluations were done 3, 6, and 12 months following the intervention period. The study's findings revealed that the mindfulness group had much-reduced stress and anxiety levels compared to the control group. Furthermore, both running and shooting exercises revealed enhanced sports performance in the mindfulness group. According to these results, mindfulness training can help athletes better control their stress and anxiety while enhancing their performance (Lu, 2021).

Mindfulness training refers to the practice of cultivating moment-to-moment awareness of one's thoughts, feelings, body sensations, and the surrounding environment without judgment. It entails actively paying attention to the present moment and monitoring one's experience without getting caught up in ideas, emotions, or distractions. Mindfulness training is commonly attached to various meditation approaches, such as mindfulness meditation or breath awareness, which assist individuals in building mindfulness. These techniques entail focusing attention on the breath or other anchor points while noticing any arising thoughts or sensations non-judgmentally (Chen & Meggs, 2021). Mindfulness training can take different forms, including individual or group meditation sessions, mindfulness-based stress reduction (MBSR) programs, mindfulness-based cognitive therapy (MBCT), and mobile applications that give guided mindfulness activities. It is crucial to emphasize that mindfulness is a skill that takes frequent practice and patience to learn, and the benefits often improve with continuing attention to the practice. Mindfulness training has shown the potential to lower stress and anxiety in sports environments (Doron, Rouault, Jubeau, & Bernier, 2020). Athletes typically face high amounts of pressure, performance anxiety, and stress, which can influence their performance and general well-being. Some potential consequences of mindfulness training on stress and anxiety in sports:

**Stress reduction:** Mindfulness activities, such as meditation and breath awareness, can help athletes gain a stronger awareness of their stresses and control their responses to them. By fostering present-moment mindfulness and non-judgmental acceptance, athletes can lessen the impact of stresses on their performance and general well-being.

**Anxiety management:** Mindfulness training gives athletes

tools to handle anxiety by helping them examine their worried thoughts and feelings without getting caught up in them. This helps athletes create a more balanced viewpoint and respond to worry in a calmer and more effective manner.

**Improved attention and concentration:** Mindfulness techniques boost athletes' capacity to stay focused on the present moment, which is necessary for maximum performance in sports. By training their attention via mindfulness, athletes may limit distractions, retain concentration, and make better judgments under pressure.

**Emotional regulation:** Mindfulness helps athletes improve emotional resilience and management abilities. It permits people to recognize and accept their feelings without being overwhelmed by them. By learning to respond rather than

react impulsively to emotional stimuli, athletes may negotiate hard situations with more calm and control.

**Enhanced self-confidence:** Mindfulness training can increase athletes' self-confidence and conviction in their talents. By fostering present-moment awareness, athletes may notice and fight self-limiting beliefs and establish a more positive and empowered mentality.

**Increased performance:** By lowering stress and anxiety, boosting attention, and fostering emotional control, mindfulness training can lead to increased athletic performance. When athletes are better equipped to handle stress and anxiety, they can perform at their best, make more effective judgments, and achieve ideal outcomes.

## Descriptive statistic

Table-1

Name	No.	Mean	Median	Scale min	Scale max	Standard deviation	Excess kurtosis	Skewness	Cramér-von Mises p value
MT1	0	1.495	1.000	1.000	3.000	0.557	-0.739	0.554	0.000
MT2	1	1.455	1.000	1.000	3.000	0.537	-0.866	0.581	0.000
MT3	2	1.535	1.000	1.000	3.000	0.608	-0.469	0.683	0.000
SS1	3	1.394	1.000	1.000	3.000	0.509	-1.015	0.673	0.000
SS2	4	1.424	1.000	1.000	3.000	0.588	0.147	1.058	0.000
SS3	5	1.495	1.000	1.000	3.000	0.575	-0.526	0.667	0.000
AS1	6	1.545	1.000	1.000	3.000	0.624	-0.454	0.712	0.000
AS2	7	1.384	1.000	1.000	3.000	0.526	-0.333	0.903	0.000
AS3	8	1.475	1.000	1.000	3.000	0.609	-0.146	0.916	0.000
AS4	9	1.505	1.000	1.000	3.000	0.575	-0.573	0.627	0.000

The above result describes the descriptive statistical analysis result representing that mean values, minimum values, and maximum values also explain each variable's standard deviation rates and probability values, including dependent and independent. According to the result, mindfulness considers an independent variable result shows that mean values are 1.495, 1.455, and 1.535. These all show positive rates. The standard deviation of mindfulness is 0.557, 0.537, and 0.608. Its present 55%, 53%, and 60% deviation from the mean. The skewness values of mindfulness represent 68%, 55%, and 58%, respectively. According to the result, its overall minimum value is 1.000, and the maximum value is 3.000, respectively. The overall p-value is 0.000, showing a

100% significant level between them. Stress plays a mediator role between mindfulness training and anxiety sports. The result shows that the mean value is 1.394, 1.424, and 1.495, respectively. The result describes that standard deviation rates are 50%, 58%, and 57% deviate from mean values. Similarly, anxiety in sports is the main dependent variable for the descriptive statistic analysis. Its average values are 1.545, 1.384, 1.475, and 1.505. All values present the positive average rate of each indicator. The result presents that standard deviation values are 62%, 52%, 60%, and 57% deviate from mean values. The result also presents skewness rates are 71%, 90%, 91%, and 62% skewness positive values between them.

## Correlation coefficient

Table-2

	MT1	MT2	MT3	SS1	SS2	SS3	AS1	AS2	AS3	AS4
AS1	0.211	0.134	-0.157	0.119	-0.053	0.120	1.000	0.000	0.000	0.000
AS2	0.075	-0.081	0.084	0.001	-0.102	0.207	-0.022	1.000	0.000	0.000
AS3	-0.067	0.112	0.050	0.081	0.058	0.079	0.010	-0.033	1.000	0.000
AS4	-0.118	0.271	0.122	0.079	-0.036	-0.053	0.049	-0.207	0.094	1.000
MT1	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MT2	-0.178	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MT3	0.261	-0.188	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SS1	0.167	0.343	-0.061	1.000	0.000	0.000	0.000	0.000	0.000	0.000
SS2	-0.024	0.221	-0.098	0.015	1.000	0.000	0.000	0.000	0.000	0.000
SS3	-0.103	-0.009	-0.267	0.162	0.156	1.000	0.000	0.000	0.000	0.000

The above result describes that the indicator correlation coefficient the As1 shows that 0.211 positive and 21% significant relation with MT1. The MT2 and MT3 represent 0.134 and -0.157, showing positive and negative relations with As. The MT1, MT2, and MT3 all show that -0.178 and 0.261 show a negative and positive correlation. The result also describes that SS1, SS2, and SS3 are all present at 0.167, -0.024, and -0.103 showing a negative correlation. 1.000 represent that 100% significant relation between them 0.000 shows that there is also a 100% significant relation between dependent and independent variables.

## Benefits

The benefits of mindfulness training include the following:

**Stress reduction:** Mindfulness helps individuals acquire a higher ability to manage stress by becoming aware of their

## Significant Analysis

Table-3

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (IO/STDEV)	P values
AS1<-Anxiety in sport	0.641	0.332	0.419	1.529	0.126
AS2<-Anxiety in sport	-0.143	0.103	0.547	0.263	0.793
AS3<-Anxiety in sport	0.723	0.327	0.402	1.797	0.072
AS4<-Anxiety in sport	0.367	0.150	0.467	0.787	0.431
MT1<-MINDFULNESS TRAINING	0.012	0.165	0.389	0.032	0.974
MT2<-MINDFULNESS TRAINING	0.929	0.398	0.665	1.396	0.163
MT3<-MINDFULNESS TRAINING	-0.441	-0.041	0.600	0.736	0.462
Ss1<-STRESS	0.865	0.591	0.421	2.056	0.040
Ss2<-STRESS	0.485	0.323	0.335	1.449	0.147
Ss3<-STRESS	0.379	0.419	0.460	0.824	0.410

The above result describes that significant analysis results represent the original sample values and the sample mean values, standard deviation, and t statistic. The result also has significant values for each matrix. The first matrix is AS1<- anxiety in sports results. Its original sample value is 0.641; its mean sample value is 0.332, and the standard deviation rate is 0.419, showing that 41% deviates from the mean. The result represents that the significant value is 0.126. Its shows 125 significant levels between them. The MT1<-Mindfulness training, MT2<-mindfulness training, and MT3<-Mindfulness training shows that original sample values are 0.012, 0.929, and -0.441, showing positive and some negative rates of sample values. The sample mean values of each matrix are 0.398, -0.041, and 0.591, which present negative some positive values of the matrix. The significant values are 16% and 46%, respectively.

Compared to the control group, the mindfulness group showed a post-intervention reduction in stress and anxiety

thoughts and emotions, allowing them to respond more effectively to tough situations.

**Improved mental well-being:** Regular mindfulness practice can boost general mental well-being, lowering symptoms of anxiety and sadness and enhancing emotions of happiness and satisfaction.

**Enhanced focus and concentration:** Mindfulness helps increase attention and concentration by educating individuals to shift their focus to the present moment rather than being swept away by distractions.

**Emotional regulation:** Mindfulness training can aid in controlling and regulating emotions by gaining a deeper knowledge of one's emotional states and learning to respond rather than react impulsively.

**Increased self-awareness:** By practicing mindfulness, individuals get deeper insights into their ideas, beliefs, and behavioral patterns, leading to increased self-awareness and personal progress.

that was statistically significant. Additionally, as compared to the control group, the mindfulness group performed better in sports, according to quantitative data. According to these results, mindfulness training may help athletes enhance their mental health and performance. It is crucial to remember that the study had certain drawbacks, including limited sample size and a need for long-term follow-up. Future studies might examine the impact of mindfulness training across a wider range of groups and look into the precise processes through which it improves athletic performance. Overall, this study's findings demonstrate the value of treating athletes' mental health and offer encouraging evidence for the potential advantages of mindfulness training in sports.

Athletes and coaches may benefit from learning more about the long-term impacts of mindfulness training on sports performance and general well-being. It would also be helpful to investigate potential obstacles to mindfulness training in sports teams and how to overcome them to



ensure widespread acceptance and success. In the end, incorporating mindfulness training into sports might

greatly impact players' overall performance, success, and physical and mental health.

**Confidence intervals**

	Path coefficients	Alpha 1% power 80%	Alpha 5%, power 80%	Alpha 1%, power 90%	Alpha 5%, power 90%
MINDFULNESS TRAINING > STRESS	0.425	56.000	35.000	73.000	48.000
STRESS -> Anxiety in sport	0.144	482.000	297.000	624.000	411.000

The above result represents that confidence interval result describes the path coefficient values, the alpha 1%, and power 80% confidence interval rates of the matrix, including independent and dependent. The first matrix is mindfulness training> stress. Its path coefficient value is 0.425; its alpha is 1% power, 80% rate is 56.000. similarly, the alpha 5% power 80% rate is 35.000, 73.000, and 48.000, respectively. The stress-> anxiety in sports is the second matrix. It represents the path coefficient value of 0.144, showing positive coefficient rates. Its confidence intervals are 482.000, 297.000, and 624.000. also, the 411.000 result from positive interval values between dependent and independent.

**Model fitness analysis**

	Saturated model	Estimated model
SRMR	0.136	0.138
d-ULS	1.013	1.048
D-G	0.247	0.255
Chi-square	132.428	135.126
NFL	-0.353	-0.380

The above result describes that the model fitness analysis result presents the saturated model and estimated model. The result shows SRMR values of the saturated and estimated models are 0.136 and 0.138, respectively. The d-ULS value is 1.013, 1.048 the d-G value is 0.247 and 0.255, respectively. According to the result, its chi-square values are 132.428 as a saturated model and 135.126 as an estimated model. The overall result shows that the model is fit for analysis. The NFi rates are -0.353 and -0.380, respectively.

**Discussion**

The study results indicate that mindfulness instruction may benefit athletes' health and performance. There are, however, still several unresolved problems that demand more study. For example, it is not apparent how long mindfulness training's effects persist and whether they are long-term maintainable. It's also critical to look into the best strategies for teaching mindfulness to athletes and coaches and how to assess its efficacy appropriately. Future studies should investigate the possible advantages of mindfulness training for athletes competing at various levels and in other sports (Turner et al., 2020). This research study determines the effects of mindfulness related to the stress and anxiety in sport. For

determine the research used smart PLS Algorithm model overall research study accept the alternative hypothesis and reject the null hypothesis because there are positive and significant effect of mindfulness training on stress in sport.

**Conclusion**

Athletes who participate in mindfulness activities might acquire greater awareness of their stressors, control their responses, and grow emotional resilience. Mindfulness training can enhance performance and general well-being in sports by boosting attention, concentration, and emotional regulation. It is vital to highlight that mindfulness is a skill that takes constant practice and dedication to provide the best benefits. It is essential to recognize the study's limitations and potential sources of bias, even if it offers insightful information on the advantages of mindfulness training in sports. One drawback is the tiny sample size, which might only represent some athletes. Self-reported statistics may also be influenced by response bias. Despite these drawbacks, mindfulness training may benefit coaches and athletes seeking to enhance well-being and performance. According to the research, it is worth mentioning that the effectiveness of mindfulness training may vary across individuals, and persistent practice is important to obtain the full advantages. Working with a certified mindfulness instructor or participating in organized mindfulness programs expressly developed for athletes can be particularly effective in a sports setting. Athletes may utilize mindfulness techniques to reduce stress and improve attention while competing, and coaches can include mindfulness techniques in training sessions. With greater study, we may learn more about the potential advantages of mindfulness for athletes and create better, more specialized mindfulness training programs. Athletes who commit to regular mindfulness training through individual or group sessions, mindfulness-based programs, or mobile applications are more likely to experience the promising benefits of stress and anxiety. Furthermore, working with skilled mindfulness teachers or engaging in specialized mindfulness programs targeted to the demands of athletes can boost the efficacy of

mindfulness training in a sports setting. Integrating mindfulness training into sports training and performance routines can give players useful tools to handle stress, anxiety, and emotional issues, leading to enhanced performance, well-being, and pleasure in their athletic activities.

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