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ORIGINAL

THE EFFECTIVENESS OF YOGA AND MINDFULNESS IN INJURY REHABILITATION AMONG BRITISH RUNNERS

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ABSTRACT

This study aims to determine whether including yoga and mindfulness exercises in injury rehabilitation regimens for British runners can be beneficial. Since injuries are prevalent among runners and can influence physical and mental health, it is critical to investigate alternatives to standard recovery. The research measures the effectiveness of yoga and its mindfulness in injury rehabilitation among british runners. A mixed-methods approach was used, which included both a quantitive study of participant experiences and a quantitative investigation of injury therapeutic rates. British runners receiving normal rehabilitation were placed in a control group and an experimental group that received yoga and mindfulness interventions. Overall, the research study measured the smart PLS Algorithm model and created informative results, including descriptive statistics and correlation coefficients that present the smart PLS Algorithm model between them. Over the course of six months, information on pain thresholds, range of motion, psychological health, and injury medicinal rates was gathered. Quantitative data analysis also investigated how the participants perceived the intervention. According to preliminary research, integrating yoga and mindfulness techniques may help British runners heal from injuries more quickly, feel less pain, be more flexible, and generally feel better. More investigation is necessary to verify these results and clarify underlying mechanisms using bigger sample sizes and longer follow-up times. The overall result found that there is a direct and significant link between the effectiveness of yoga and mindfulness in injury rehabilitation among British runners. However, this study emphasises how alternative therapies like yoga and mindfulness may help runners get the best possible results from their injury rehabilitation.

KEYWORDS: Mindfulness Exercise (ME), British Runners (BR), Effectiveness (EE), Smart PLS Algorithm Model, Psychological Health (PH)

1. INTRODUCTION

A type of exercise that can develop strength and flexibility within the mind and body of a person is called yoga. Yoga is a type of practice that seems very helpful in reducing pain and stress. Various yoga methods vary regarding physical posture, breathing techniques, and deliberation. The origin of yoga is India, and it originated a long time ago. Body movement, cogitation, and breathing manners are involved in yoga because these things are necessary for mental and physical fitness. If a person performs yoga practice daily, it greatly affects their endurance, strength, tranquillity, and well-being (Govindaraj, Karmani, Varambally, & Gangadhar, 2016). The philosophy behind yoga is the connection built among the mind, body, and spirit during this practice. Thousands of years ago, yoga was developed as a spiritual practice. As in this practice, a connection develops between body, breath, and mind, and the physical position, breathing method, and meditation play a significant role in positive changes in a person's overall health. Nerve soothing and mind calmness are the benefits that can be seen as a result of yoga because this exercise can develop strength and flexibility within the body. This exercise affects all body parts, including muscles, joints, skin, whole-body glands, nerves, internal organs, bones, respiration, and the brain(Manierski, 2023).

The posture and the breath play a significant role in yoga. A balanced state of body and mind, emotions, thoughts, intellect, and behaviour are collectively known as yoga. Our objective guidelines and assessment are the full form of yoga. A branch of a religious and spiritual tradition originating in the Indian practice of Hinduism is known as yoga. The integration of the body, mind, and thoughts so that every work can be performed effectively is known as yoga. In the modern era, poor food, heavy daily routines, and air and water pollutants strongly affect the human body. Rig Veda is an ancient term that is used for yoga. Ancient sacred words mentioned in Sanskrit combine and form the term Vedas(Tingaz, Ekiz, & Çakmak, 2020). Yoga is the best option for becoming stronger and more flexible. if someone wants to be a limber person with an energy-carrying body, he should opt for the yoga technique. It will make the body more focused and alert. A person performing yoga can function better in various fields of life than a person who does not practice it. Complicated exercises performed by athletes can induce musculoskeletal injuries and some mental disorders that are associated with these injuries(Coimbra, Bevilacqua, Pereira, & Andrade, 2021).

The main purpose of this practice is to avoid injuries to Skelton and mental diseases that appear mostly in exercise and sports activities. Only those exercises are good for health and can be performed in a moderate environment,

which can be practised easily. Those physical exercises that are highly intense and excessive training required for them will lead to stress over the immune system, oxidative stress, damage in muscles, risks to coronary arteries, and many psychiatric issues(Paniccia et al., 2019). The use of complementary treatments, such as yoga and mindfulness, into traditional injury rehabilitation programmes for athletes has recently garnered increased attention. This interest results from the realisation that physical remedial from injuries is a multifaceted process that incorporates psychological and emotional aspects and physiological ones. Injuries are prevalent among athletes, especially runners, and can seriously interfere with training plans, overall performance, and general wellbeing. Thus, in order to maximise athletes' recovery and reduce the chance of re-injury, investigating alternative methods to improve injury rehabilitation results is essential. In the West, yoga and mindfulness techniques have become more popular, especially among athletes and sports medicine specialists. Yoga is an age-old Indian discipline that includes breathing exercises (pranayama), bodily positions (asanas), and meditation. It is well known for enhancing strength, flexibility, balance, and mental clarity.

Buddhism is the source of mindfulness, which is the practice of developing acceptance and present-moment awareness without passing judgment. People can become more self-aware, emotionally stable, and resilient to stress by engaging in techniques like body scanning, meditation, and mindful movement. Yoga and mindfulness provide potential pathways for addressing the physical components of recovery and the psychological and emotional obstacles that athletes frequently encounter in injury rehabilitation. Research has indicated that psychological problems such as anxiety, despair, fear of re-injury, and chronic pain are frequently encountered by injured athletes. These difficulties might impede their recovery process and general quality of life. With their all-encompassing approach to health and well-being, yoga and mindfulness techniques may offer helpful tools for treating these issues and encouraging a more thorough and long-lasting therapeutic process. Yoga is a practice that is capable of controlling all these adverse conditions by conducting the functions of the parasympathetic nervous system and down-regulating the working of the hypothalamohypophysial axis.

These phenomena will play a significant role in the therapeutic of injury, recovery from any disease, regeneration of lost body cells, reduction in stress, refreshment of the brain, improvement in cognitive functions, upgrading of mental health, reduction in inflammation and oxidative stress. Results of the research show that there should be a great integration between exercise sports because it will play a significant role in avoiding injuries and the mental disorders associated with them (Mozafari Zadeh, Heidari, & Khabiri, 2019). Musculoskeletal disorders are mostly found in athletes because they bear complicated injuries during the sport. Also, mental disorders are very common among athletes, which can also include anxiety disorders and depressive

disorders. Although an increasing number of studies are looking at the health benefits of yoga and mindfulness in various groups, including athletes, there are currently few that explicitly look into how well these practices work for runners recovering from injuries, especially in the British setting. It is critical to comprehend how these practices may affect British runners' injury recovery rates, pain management, functional outcomes, and psychological wellbeing to improve the quality of care given to injured athletes and guide evidence-based rehabilitation procedures. Thus, this study aims to evaluate how well British runners respond to injury rehabilitation programmes incorporating yoga and mindfulness techniques. This study uses a mixed-methods approach to provide a comprehensive understanding of the potential benefits and mechanisms underlying the observed effects of yoga and mindfulness interventions. It combines quantitative analysis of injury recovery rates with qualitative exploration of participant experiences. By addressing these goals, the study hopes to add to the expanding body of knowledge regarding applying complementary therapies in sports medicine. Additionally, it will offer insightful information to athletes, coaches, and clinicians who are looking to maximise the results of injury rehabilitation and advance the overall health of the running community.

Researchers quickly decided that mindfulness-based stress reduction can be utilized for runners' activeness so they can perform well. It was the result of the research of eight weeks in which mindfulness-based stress reduction was carried out. Five aspects can be seen as the output behavior of athletes towards mindfulness-based stress reduction theory. One is the development of reconnection with the body, and the second is reconnection development with the mind. Third is MBSR which is performed in the form of a group versus individually. Fourth is the acceptance of pain. The fifth one is the numbness of MBSR, which is confronted by athletic habitude(Cruze & Games, 2021). The effect of mindfulness-based yoga is studied for young people with a continuous collision by comparing the consequences of occupation-based and neurophysiological matters. One of the experiments was performed in which 6 young runners who are of age 13 to 17 years were made to participate in an eight-week mindfulness-based yoga intervention for 45 minutes(Noetel, Ciarrochi, Van Zanden, & Lonsdale, 2019).

The variations in the heart rate and self-efficacy are accumulated before, after, and after three months of intervention. The variations in the heart rate were also measured during every session. When some young people are kept under mindfulness-based intervention then positive effects can be seen in their academic, social, and emotional areas(Pappous, Mohammed, & Sharma, 2021). Trainers who treat athletes and runners continuously address that musculoskeletal pain can be treated by using yoga techniques. The trainers utilize various techniques continuously to treat this problem. However, to make patients feel musculoskeletal problems in a nonjudgmental way can only be

possible by the application of mindfulness-based stress reduction. In order to conclude, it is said that yoga is such a supernatural tool that can enhance a person's health and has a positive effects effect on the effectiveness in performance of runners(Halappa, 2023).

1.1 Research objective

The main objective of this research is to provide a qualitative speculative perceptiveness of participation in a mindfulness-based stress reduction program for runners in England who will become injured during their performance. The specific objectives of this research are to:

1. Assess how yoga and mindfulness practices affect British runners' injury recovery rates in comparison to conventional rehabilitation techniques. 2. After the intervention, evaluate how the pain, range of motion, functional results, and psychological wellbeing have changed. 3. Find out how participants felt about the yoga and mindfulness intervention's viability, acceptability, and efficacy in assisting with their injury recovery. 4. Determine the possible obstacles and enablers to applying yoga and mindfulness techniques in the context of British runners' injury recovery

the research determines the Effectiveness of Yoga and Mindfulness in Injury Rehabilitation among British Runners. The research paper divided into five specific chapters first represents that introduction included research objective. The second section describes literature review; the third section represents that research methodology included tools and techniques of research study. The fourth section describes the results, and the last portion summarizes overall research and presents recommendations related to the Effectiveness of Yoga and Mindfulness in Injury Rehabilitation among British Runners.

2. Literature review

Researchers claim that yoga is a type of sport that has gained immense importance in the world in the last few years. social sports clubs promote yoga as a sport in their institutes by training the club members the yoga practices. The yoga courses are not provided to middle school children but are common among higher school students(Bucea-Manea-Țoniș, Paun, Mindrescu, & Cătună, 2023).studies suggest that sports players face a lot of problems while playing sports of different types. The mental health of most sports players gets disturbed due to the sport-related challenges.to enhance athletes' mental. Health care providers are provided with mindfulness-based interventions along with physical training. Mindfulness-based intervention is provided to soccer players to improve various aspects of their sport-related performances. the psychological improvement is observed in soccer players getting mindfulness interventions(Carrança, Serpa, Rosado, & Guerrero, 2019).Studies explain that

volleyball sports require improved cognitive ability in athletes.

Athletes with enhanced cognitive functioning perform better in their sports. the volleyball athletes facing fatigue and stress conditions because of playing in various sports-related competitions are provided with psychological interventions. music is one of the types of mindfulness-based intervention provided to athletes of volleyball sports to relieve them from fatigue condition(Coimbra et al., 2021).studies suggest that along with mindfulness intervention, athletes are provided with an EBT program. This program guides athletes to improve their eating habits to save them from getting eating disorders. Yoga-based EBT program is provided to female athletes of different sports This yoga-based program reduces the chances of development of eating disorders in female athletes(Cook-Cottone et al., 2024).scholar studies reveal that athletes face musculoskeletal pain due to excessive sports training.the intense training session develops fatigue and different muscle and joint pain in athletes. such pain-suffering athletes are provided with clinical treatment along with the MBSR program(Cruze & Games, 2021).studies explain that an athlete's physical as well as psychological health determines his performance in sports.to improve athletes' psychological health along with physical health, athletes are trained using mindfulness approaches. the mental health of an athlete plays a crucial role in affecting his game-playing skills.to make sure that athletes mental health is good they are Offered mindfulness programs during their physical training periods(Devi, 2023).studies predict that college sports students face a lot of problems in managing their studies with sports. the academic pressure along with game pressure makes them stress.

Such college sports students are provided with mindfulness interventions that make their psychological health better(Glass, Spears, Perskaudas, & Kaufman, 2019).studies elaborate that sports injuries are common in athletes practicing intense exercises. The injured sports athletes face mental health problems when they cannot play due to their physical disability. mindfulness-based interventions are provided to such injured athletes. along with mindfulness interventions the injured athletes are trained with the help of exercise-induced programs These programs help in indulging the injured athletes in some kind of exercise to speed up their recovery process(Halappa, 2023).a lot of teenagers in their present world are facing mental health problems.it is very disturbing for healthcare frontline workers to see young children facing mental health issues.to help teenagers clinicians provide them with clinical treatment along with yoga sports exercises Yoga is an exercise that relaxes the mind and body of stressed people. School-going children are at higher risk of developing mental health problems due to academic pressure.to guide such young children to cope with life challenges it is important to provide them with interventions(Khunti, Boniface, Norris, De Oliveira, & Shelton, 2023).studies explain that the trend of fitness training is increasing among youth. fitness training helps in the speed of recovery of

athletes after an injury condition. Athletes facing injury conditions during the physical training period get post emotional distress. This stress after the injury makes athletes dull and inactive.to maintain athletes mental health they are provided with mindfulness intervention trough yoga programs right after they face any injury situation(Lang, 2023).studies shows that yoga sports helps the athlete to achieve flexibility .scooter players adopt yoga practices to make their body flexible. also, when athletes face any injury during sports training sessions their flexibility as well as game-playing skills are reduced. Such athletes having less flexibility are provided with yoga-based mindfulness interventions to retrieve their loss flexibility after recovering form injury condition(Mangle, 2022).studies claim that mindfulness based approaches holds great importance and because of that these interventions are widely acceptable in most of sports training seiions.one of the best coping strategy used after sports injury is mindfulness intervention. athletes getting into any injury condition faces a lot of psychological health problem after the injury.

These psychological health problems include anger as well as deprsseion.to helps such injured athletes to overcome their anger they are indulge in meditating programs. Yoga is one of the meditation practice that relaxes the mind of depressed injured athletes (Manierski, 2023) Moreover, mindfulness intervention is regarded as one of the judgmental approaches that guide the athletes to concentrate on their sports playing practices without developing any mental health problems. the anxiety faced by states facing injury is overcome through the effective strategies of the mindfulness approach(Mozafari Zadeh et al., 2019).by balancing athletes' mental and physical health the approach of mindfulness intervention optimizes athletes performing ability(Noetel et al., 2019).studies explain that neuropsychological benefits of MBY make it the most effective therapy for overcoming mental health issues of athletes. the young athlete's stability to tackle game-related circumstances is enhanced as a result of MBY(Paniccia et al., 2019).also, MBSR is another approach that is involved in reducing the stress in athletes. the participation of athletes in sports competitions makes them stressed.to overcome game-related stress such athletes get MBSR therapy(Pappous et al., 2021).studies predict that NCCA is an association that predicts that almost fifty percent of young college sports-playing students face anxiety. and almost thirty percent of students face depression symptoms.

The anxiety and depression in sports playing college students lead to poor performance in sports as well as in academics.to help these college sports-playing students they are involved in mindfulness based intervention programs(Parham, 2022).moreover in athlete having PPSC symptoms the S-REHAB approach holds significance .the S-REHAB approach reduces the stress symptoms in athletes(Rytter, Westenbaek, Henriksen, Christiansen, & Humle, 2019).studies suggest that yoga is a therapy based intervention that is effective in reducing the depression symptoms in trauma affected

athletes(Stevens & McLeod, 2019).a lot of athletes are provided with yoga based mindfulness approach based on their sports related injury history(Tingaz et al., 2020).

3. Research methodology

The research study determines that Effectiveness of Yoga and Mindfulness in Injury Rehabilitation among British Runners. The research study based on primary data analysis for determine the research used specific research question included open ended and closed ended related to the variables. the yoga and mindfulness is considering as independent variable also that rehabilitation and british runners consider as dependent variables. for measuring the research used smart PLS software and generate result included descriptive statistic, correlation coefficient also that describe smart PLS Algorithm model between them for determine the Effectiveness of Yoga and Mindfulness in Injury Rehabilitation among British Runners.

3.1 Mindfulness

A gradual and patient-centered approach to rehabilitation is represented by the integration of yoga into physiotherapy techniques. Physiotherapists who embrace the holistic principles of yoga may provide their patients a customized and comprehensive approach to recuperation. The combination of these two fields not only speeds up the therapeutic process but also gives people the ability to take an active role in their own journey towards better health and wellness.

In the ever-evolving field of therapeutic settings, yoga is a particularly useful and pertinent technique for physiotherapists to have in their toolbox. It has been discovered that mindfulness can help athletes perform better by, for example, improving present-moment awareness and creating "flow," or a state of total attention on the activity or event at hand. By reducing outside distractions, enhancing emotional and metacognitive awareness, and encouraging attentional focus on performance-related stimuli, this results in an increase in attention concentration. According to Mahoney, practicing mindfulness teaches you how to see yourself as context and how to separate from your conceptualized self—the "thinking" or "observing" self.

The mindfulness practices of acceptance and cognitive defusion facilitate this process and raise the possibility that people will develop psychological flexibility A type of separation between the injury and the athlete occurs when people are urged to stop defining themselves in terms of their perceived roles (e.g., athlete, coach, student, parent) and to begin seeing themselves as a being with transitory experiences.

Athletes' athletic identity is preserved via mindfulness and the perspective of "self as context," but they also become more receptive to difficult situations that arise during recovery. This might lead to better adherence to recovery plans and, ultimately, a reduction in anxiety associated with sports injuries.

3.2 Descriptive statistic

Table 1:

NAME	NO.	MEAN	MEDIAN	SCALE MIN	SCALE MAX	STANDARD DEVIATION	EXCESS KURTOSIS	SKEWNESS	CRAMÉR-VON MISES P VALUE
Y1	0	1.755	2.000	1.000	3.000	0.686	-0.837	0.369	0.000
Y2	1	1.592	1.000	1.000	3.000	0.668	-0.544	0.713	0.000
Y3	2	1.510	1.000	1.000	3.000	0.539	-1.068	0.361	0.000
M1	3	1.673	2.000	1.000	4.000	0.711	0.920	0.936	0.000
M2	4	1.490	1.000	1.000	3.000	0.610	-0.184	0.874	0.000
M3	5	1.531	1.000	1.000	4.000	0.673	2.272	1.335	0.000
M4	6	1.673	2.000	1.000	3.000	0.682	-0.749	0.533	0.000
IR1	7	1.429	1.000	1.000	3.000	0.606	0.318	1.135	0.000
IR2	8	1.653	2.000	1.000	3.000	0.624	-0.613	0.426	0.000
IR3	9	1.469	1.000	1.000	3.000	0.575	-0.329	0.788	0.000
IR4	10	1.898	2.000	1.000	3.000	0.647	-0.573	0.103	0.000
IR5	11	1.531	1.000	1.000	3.000	0.673	-0.295	0.921	0.000
BR1	12	1.592	1.000	1.000	3.000	0.668	-0.544	0.713	0.000
BR2	13	1.449	1.000	1.000	3.000	0.574	-0.181	0.876	0.000
BR3	14	1.592	2.000	1.000	3.000	0.636	-0.535	0.623	0.000
BR4	15	1.633	2.000	1.000	3.000	0.661	-0.635	0.584	0.000
BR5	16	1.571	1.000	1.000	4.000	0.728	1.220	1.214	0.000

The above result represents that descriptive statistic analsysi result describe that mean values, median values, the minimum value, also that maximum value of each indicator. The result also presents that skewnss rates, the probability value of each factor according to the result overall minimum value is 1.000 the maximum value is 3.000 the median rate is 2.000 respectively. The Y1,2,3 these are all consider as independent variable result describe its mean value is 1.755, 1.592, 1.510 its shows positive average value of mean the standard deviation rate is 0.686, 0.668 and 0.539 its shows that 68%, 66% and 53% deviate from mean.

The overall probability value is 0.000 the M1,2,3, and 4 these are all consider as mediator variable according to the result its mean values is 1.673, 1.490, 1.531 and 1.673 its shows positive average value of mean the standard deviation rate is 71%, 61%, 67% and 68% deviate from mean values. The IR and BR both of them are consider as dependent variable according to the result its mean values are 1.429, 1.653, 1.469, 1.592, 1.449, 1.633 and 1.571 these are all shows that positive average value of mean. The standard deviation rates of each indicator is 62%, 57%, 66%, 72% deviate from mean values.

3.3 Applications

The results of this study have a number of applications for coaches, players, sports medicine specialists, and other healthcare workers that work with injury recovery and sports training. Among these applications are: 1. Integration of Yoga and Mindfulness into Rehabilitation Protocols: For injured athletes, especially runners, sports medicine practitioners and rehabilitation specialists can integrate yoga and mindfulness practices into standard rehabilitation protocols. Clinicians may treat both the psychological and physical components of injury recovery by including these complementary therapies, which will result in more thorough and successful rehabilitation results. 2. Tailored Rehabilitation Plans: Understanding that injury recovery is a personalized process, medical professionals may create customized rehabilitation plans that address the particular requirements and preferences of every athlete. More personalization of rehabilitation programs is made possible by the integration of yoga and mindfulness techniques, guaranteeing that athletes receive individualized therapies that suit their preferences and aims. 3. Pain Management Techniques: It has been demonstrated that yoga and mindfulness can help wounded athletes control their pain better and experience lower levels of discomfort. By using these strategies as supplemental therapies to traditional pain management methods, sports medicine providers can lessen their patients' need on medication and encourage their bodies' natural ability to relieve pain. 4. Improved Psychological Support: Anxiety, sadness, and a fear of getting hurt again are common psychological issues that injured athletes deal with. These issues can make recovery more difficult.

During the therapeutic process, yoga and mindfulness techniques are beneficial for managing psychological problems, encouraging emotional resilience, and improving general wellbeing. 5. Preventative Care and Injury Prevention: In addition to helping athletes recover from injuries, including yoga and mindfulness in training regimens can lower their chance of suffering new injuries in the future. These exercises can help athletes retain their best physical and mental health by enhancing their flexibility, balance, proprioception, and body awareness. These abilities can help athletes become more resilient to injuries. 6. Education and Awareness: Raising awareness and encouraging the adoption of these practices within the sports medicine community requires educating players, coaches, and medical professionals about the possible advantages of yoga and mindfulness in injury recovery. It is possible to create seminars, workshops, and instructional materials to spread information and promote a holistic, well-being-focused culture in sports. 7. Study and Practice Based on Evidence: Further studies on the benefits of yoga and mindfulness for the recovery from injuries are crucial to the advancement of evidence-based sports medical practice. Larger sample sizes, extended follow-up times, and randomized controlled trials should be the main objectives of future research in order to confirm the effectiveness of these therapies and clarify their underlying processes.

3.4 Correlation coefficient

Table 2:

	Y1	Y2	Y3	M1	M2	M3	M4	IR1	IR2	IR3	IR4	IR5	BR1	BR2	BR3	BR4	BR5
BR1	-0.174	0.130	0.238	0.235	0.240	0.209	0.156	-0.122	0.101	-0.033	-0.096	-0.108	1.000	0.000	0.000	0.000	0.000
BR2	0.020	-0.001	-0.081	-0.291	-0.278	-0.141	-0.199	0.151	-0.135	0.351	0.179	-0.194	-0.108	1.000	0.000	0.000	0.000
BR3	-0.042	0.184	-0.166	-0.114	-0.168	-0.114	0.163	-0.023	-0.254	0.412	0.444	-0.209	-0.104	-0.001	1.000	0.000	0.000
BR4	-0.424	0.123	0.240	0.309	0.294	-0.204	-0.040	0.036	0.136	-0.191	-0.374	0.255	0.123	-0.157	-0.260	1.000	0.000
BR5	-0.169	-0.150	-0.067	0.163	-0.171	-0.119	0.211	-0.139	-0.058	0.090	-0.136	-0.202	-0.150	0.070	0.107	0.224	1.000

IR1	-0.238	0.281	0.018	0.041	-0.016	-0.307	0.191	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
IR2	0.088	-0.144	0.344	0.067	0.017	0.292	-0.266	-0.416	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
IR3	-0.019	0.233	-0.377	-0.024	-0.015	-0.274	-0.182	-0.050	-0.399	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
IR4	0.128	0.093	-0.026	-0.428	-0.028	-0.016	-0.214	-0.305	0.115	0.293	1.000	0.000	0.000	0.000	0.000	0.000	0.000
IR5	0.016	0.028	-0.240	0.362	-0.037	0.009	-0.289	0.093	0.001	-0.222	-0.204	1.000	0.000	0.000	0.000	0.000	0.000
M1	-0.122	-0.023	-0.151	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
M2	-0.103	0.040	0.295	-0.055	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
M3	0.237	-0.018	-0.184	0.106	-0.186	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
M4	-0.215	-0.024	0.287	0.075	0.139	0.111	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Y1	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Y2	-0.174	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Y3	-0.159	-0.045	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The above result represent that correlation coefficient analysis overall result shows that some positive and some negative interrelation between them.

3.5 Smart PLS Algorithm Model:

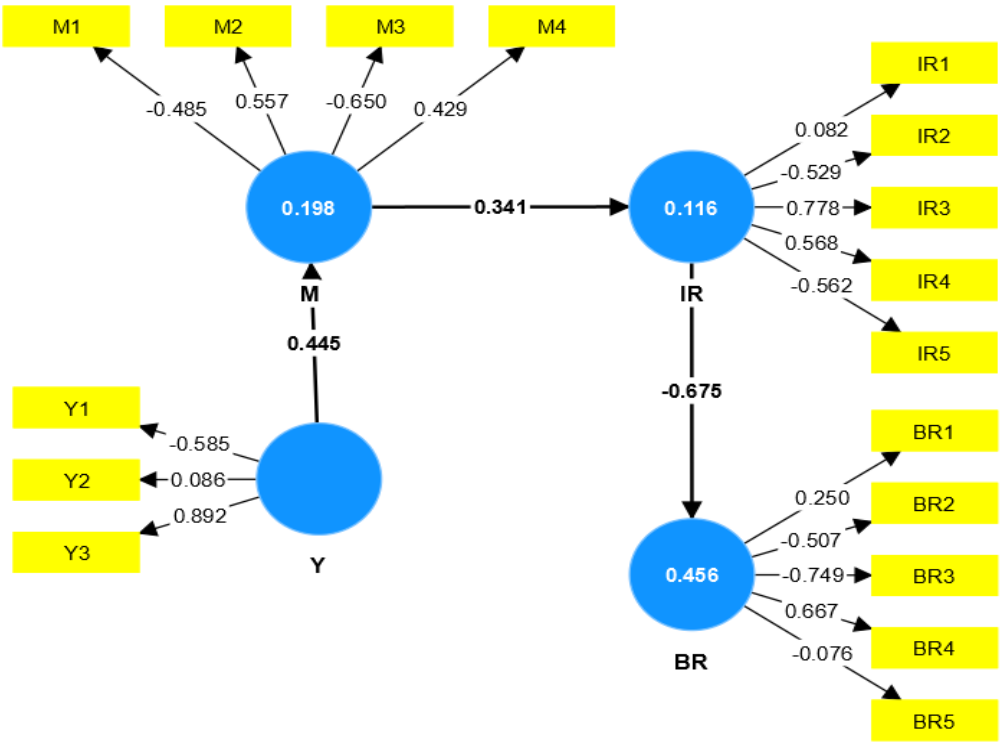

Figure 1

The above model called smart PLS Algorithm model in between Y, M, IR and BR according to the above model yoga present that -0.585, 0.086, 0.892 positive rates its present that 44% positive and significant link with M. the IR shows that -0.675 negative link with BR model present that 0.250, -0.507, 0.749, 0.667 also that -0.076 shows some positive and some negative relation between them.

4. Conclusion

In conclusion, this study has shed important light on how well yoga and mindfulness exercises may be incorporated into British runners' injury recovery. Using a mixed-methods approach that blends qualitative inquiry with quantitative analysis, we have been able to fully comprehend the possible advantages and underlying processes of these complementing therapies' observed impacts. According to the study's findings, yoga and mindfulness exercises help hasten the remedial process from injuries, lower pain levels, increase range of motion, improve functional outcomes, and support psychological health among British runners. These findings are in line with other studies that showed yoga and mindfulness to be helpful for a variety of populations, including athletes. It is essential to recognize the limitations of this research, such as the comparatively small sample size and the brief follow-up duration. Larger sample numbers and longer-term follow-up are required for

validation of these results and clarification of the processes underlying the observed effects. Anyhow these drawbacks, sports medicine specialists, coaches, and players engaged in injury rehabilitation should take note of the study's conclusions.

Through acknowledging the possibilities of complementary treatments such as yoga and mindfulness to assist with the psychological, emotional, and physical elements of recovery, medical professionals may create more individualised and comprehensive rehabilitation plans that are specific to each athlete's requirements. The research determines that Effectiveness of Yoga and Mindfulness in Injury Rehabilitation among British Runners. For measuring, the research study used smart PLS software and generated informative results, including descriptive statistics, correlation coefficient analysis, also the smart PLS Algorithm model. Moreover, we can improve athletes' general health and performance while lowering their risk of re-injury and encouraging long-term sustainability in sports participation by raising awareness of and incorporating yoga and mindfulness practices into sports medicine and athletic training programs. In conclusion, there are a variety of ways that incorporating yoga and mindfulness into injury recovery among British runners might benefit athletes' general wellbeing and performance. Sports medicine practitioners may maximize injury therapeutic results, substitute holistic wellbeing, and enable athletes to achieve their maximum potential in their athletic endeavours by embracing these alternative treatments and incorporating them into traditional rehabilitation regimens. The overall research concluded that direct and significant relation in between Effectiveness of Yoga and Mindfulness in Injury Rehabilitation among British Runners. This study's findings emphasize the value of a comprehensive approach to injury recovery and the potential of alternative treatments like yoga and mindfulness to improve results for British athletes and runners throughout the world. Through the adoption of these approaches and their integration into standard rehabilitation protocols, we may open up new avenues for the running community to heal and thrive.

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