Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

A STUDY ON THE EFFECTS OF TEN WEEKS OF YOGA ON COLLEGIATE ATHLETES' BALANCE AND FLEXIBILITY

Dr. E. Kishore[1] and D. V. Balachandra[2]
[1]Academic Consultant, Department of Physical Education, Sri Venkateshwara University, Tirupati, Andhra Pradesh
[2]PhD Research scholar, Department of Physical Education, Sri Venkateshwara University, Tirupati, Andhra Pradesh.

Abstract:

More proof of yoga's advantages may help athletes and coaches understand how it might improve performance. The study aims to ascertain how yoga affects male collegiate athletes (N = 26). "A yoga group (YG) of athletes (n = 14) participated in biweekly yoga sessions over 10 weeks. In contrast, a non-yoga group (NYG) of athletes (n = 12) did not engage in further yoga activities." Before and after this time, performance metrics were acquired right away. Flexibility and balance tests were "stork stand (SS), sit reach (SR), and shoulder flexibility (SF);" dynamic measurements were joint angles (JA) recorded while doing three different yoga poses (chair [C], right foot lunge [RFL], and downward dog [DD]). "Flexibility (SR, P = 0.01; SF, P = 0.03) and balance (SS, P = 0.05)" significantly improved YG. For flexibility and balance, no discernible changes were seen in the NYG. Interestingly, higher JA was seen in the YG for the following: C "(flexion, r knee; P = 0.01), DD (extension, r-knee; P = 0.04; r-hip; P = 0.01), and RFL (dorsiflexion, l ankle; P = 0.04)." In the NYG, there were significant JA differences for the following: C (flexion r knee, P = 0.05; extension, r-shoulder, P = 0.05) and DD "(flexion, r knee, P = 0.01: r-hip, P = 0.05; r-shoulder, P = 0.03). Significant differences were seen for RFL (l ankle; P = 0.01), DD (r-knee, P = 0.01; r-hip, P = 0.01), and C (r-shoulder, P = 0.02) when comparing the groups." According to the findings, male collegiate athletes who regularly practice yoga may see improvements in their flexibility, balance, and whole-body measurements. As a result, these traits may be more readily applied to their athletic performances.

Keywords: Athletes, Balance, Collegiate-Male, Flexibility, Sit Reach, Stork stand.

Introduction

If the advantages of yoga are more clearly shown, athletes and coaches may be more receptive to its potential as a performance enhancer. The driving force for this research was finding out how yoga affected male collegiate players.

Numerous studies have linked regular yoga practice to improved health and athletic performance.[1] Some good health effects include lower blood pressure, lower blood lipid readings, a lower body mass index, and better "pulmonary function." From "a performance perspective, yoga has been shown to improve cardiovascular performance," increase flexibility and balance, reduce low back pain, boost handgrip strength, improve performance in various other areas, and enhance muscle torque, low back pain, and post-workout muscle soreness. Improvements in mental health have also been associated with yoga's effects. Less anxiety, less sadness, more relaxation, and more motivation are all examples of the beneficial effects. Beyond this, tangible gains could be in the qualities often associated with peak performance on the playing field.[2] As more data becomes available and its effects on motor skills are better understood, yoga has the potential to supplement or even replace more conventional forms of exercise in a well-rounded training program.[3]

Because of its "complex demands that test the body in many ways," yoga's concept varies from some forms of training.[4] Athletes may maximise their bodies' functional potential by reducing movement restrictions and making the most of movement affordances when they do it well. When practising yoga as a physical discipline, one must keep one's breath steady and regular as one goes through a sequence of static postures, or Asanas, that put all the muscles used for breathing and supporting the body into action. A full-body challenge is provided by linking "breathing mechanics with an engaged musculoskeletal system while doing the postures." For instance, the Warrior 2 (standing lunge) posture focuses on the leg

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

and arm muscles while the body twists inward while the hips and head rotate oppositely. With the leading leg hyperextended and rotated internally, the arms should perfectly align with the shoulders and extend as far as possible. When doing these motions, it is important to time and lengthen your breaths to correspond with the length of each position and the beginning of the transition between them.[5]

Conventional sports training focuses on honing certain fitness domains via targeted exercise. One way to improve cardiovascular fitness is to run long distances often, which strains the heart and lungs. Strength training using weights regularly increases muscular strength by putting certain muscle units to the test of their contractile potential. Therefore, conventional training aims to improve the fitness factors that influence a certain sport's performance.[6] As a result, it is thought that doing better in the fitness components associated with a sport leads to better athletic performance. While this kind of training does a great job of improving some aspects of fitness, it may be challenging to put these improvements to use to enhance one's athletic performance.

Making training activities that mimic the motions of a sport as precisely as possible is one way to use targeted fitness improvements. Because they are so similar to a soccer kick, leg extension lifts are a common tool for training. The same might be achieved by practising the soccer kick (kicking exercises) after a heavy weight-lifting session.[7] It is hard to perceive how training has improved athletic performance, even while the muscle endurance of a soccer kick has improved.

On the other hand, yoga is an excellent way to improve your fitness in more than one way. For example, after a few weeks of practice, the joints that make up kinetic chains for movement may be fine-tuned by increasing their range of motion, recruiting more muscle fibres, and aligning themselves more precisely. [26–28] Optimal performance is achieved when flexibility improves and muscular tension decreases. This leads to a larger stretching impact on the connective tissue, which "loosens" it and lessens the strain on the ligaments and joints. [8][9] When connective tissues loosen, muscles activate, joints move more freely, and new movement possibilities become available.

Due to its multi-faceted focus, yoga is a highly organised practice that imitates vital components of “athletic performance, such as flexibility, strength, endurance, balance, and movement synchronisation.”[10] Thus, yoga may have a one-of-a-kind, multi-faceted effect on performance in sports.[11] To keep their balance and stretch their joints beyond their typical range of motion, top soccer players, for example, constantly shift their bodies in many different ways. Similarly, an advanced yoga practice aims to improve stability and mobility by deliberately guiding the body through limiting postures as naturally and efficiently as possible.

This paper aims to determine whether and how yoga affects some aspects of fitness related to sports performance. Therefore, improved fitness performance components should increase athletic performance capacity. Researchers conducted their experiment on highly-trained collegiate athletes to enhance the generalizability of our findings to real-world competition.

Hypothesis

Researchers postulated that collegiate athletes would improve flexibility, balance, and joint angles (JA) after 10 weeks of consistent yoga posture instruction.

Methods

This exploratory research examined “the effects of yoga on several components of physical fitness” over the course of 10 weeks using pre- and post-tests in a quasi-experimental methodology. Two teams, each participating in their unique sport, were used. College coaches were approached to gather statistics on their players, which allowed for participant recruitment. UG male athletes enrolled at Sri Venkateshwara University, Tirupati, during the 2023-24 Academic Year IInd semester (N = 26) were the subjects of this study. The participants were either baseball (n = 12) or soccer (n = 14) team members. None

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

of the participants had any serious injuries, and none of them had much yoga experience. They were unaware of the study's goals when they filled out a medical history form and signed a permission form before being approved to participate.

Measures

To conduct a quantitative analysis of yoga's potential to improve performance, we focused on two areas—flexibility and balance—because they are fundamental to many athletic endeavours. In addition to these metrics, we also examined the whole body's posture to show how different JA changed.[12] The kinetic chains executed in various yoga poses were described using JA measurements. Taken as a whole, these metrics ought to prove that yoga improves fitness in certain ways and, maybe, provide light on how the practice may pay for itself.

The evaluations were done independently for every category. Two days before the first yoga session, the YG's evaluation process was finished; the next day, the NYG's methodology was also completed. After the ten weeks of yoga, the YG athletes underwent the same tests as the NYG athletes the following day. The following evaluation procedure was executed without a warm-up: "(1) shoulder flexibility (SF), (2) sit-reach (SR), (3) stork stand (SS), (4) right forward lunge (RFL), (5) downward dog (DD), and (6) chair tests."

The SF and SR tests were used to assess flexibility, while the stork stand (SS) tests were used to examine balance. An average of the three finest efforts was recorded. "Right forward lunge (RFL), deep bending (DD), and chair assessments were videotaped of subjects. The maximum JA for the ankle, knee, hip, and shoulder joints in each position was determined during this evaluation." For this evaluation, the participants held all three stances for ten to fifteen seconds while standing with their backs to the camera evaluation. We used Dartfish tracking software to analyse the video footage. When one joint is in a certain posture, as when lunging, the right and left JA are found. We only measured the right JA for bilateral alignment, which includes positions used for DD and chairs.

Descriptive and inferential statistics were run for the entire body, flexibility, and balance assessments. Due to the limited availability of individuals from two different sports for between-group analyses, an emphasis was placed on within-group comparisons, and flexibility and balance assessments were performed. All values that were measured had their means compared before and after. "The paired t-test and Welch's two-sample t-test were used" to evaluate change scores with a significance level 0.05.

Results

Balance and Flexibility

Table 1 shows that throughout the 10 weeks, the YG improved their balance (SS), flexibility (SR and SF), and stability (SR). Figure 2 shows that the average performance of SR increased "from 21.4 inches (SD = 3.9) to 23.1 inches (SD = 2.5), a difference of 1.8 inches, and Figure 3 shows that the average performance of SF increased from −0.1 inches (SD = 3.1) to 0.7 inches (SD = 2.9), a difference of 0.7 inches. Figure 4 shows that this group's stork stance time also increased, on average, from 12.5 seconds (SD=6.5) to 16.5 seconds (SD=8.3), a difference of 4.0 seconds."

Table 1 shows that the "NYG" became less flexible and had less balance as the YG changed. As shown in Figure 2, the average performance of SR declined "from 21.4 inches (SD = 2.7) to 21.0 inches (SD = 3.6), a difference of -0.4 inches. Similarly, in Figure 3, the average performance of SF decreased from -1.1 inches (SD = 3.8) to -2.1 inches (SD = 2.9), a difference of -1.0 inches." There was a 4.1-second drop in the average "stork stance time for this group," as shown in Figure 4, from 22.7 seconds (SD = 8.8) to 18.6 seconds (SD = 9.6).

The results of "a within-group t-test" comparing "these measures" showed that the YG participants performed significantly better on "SR (P = 0.01), SF (P = 0.03), and SS (P = 0.03)." The NYG individuals did not vary significantly from one

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

another. Table 1 also shows that after the 10-week training session, there were "significant differences (*) in SR (P = 0.04)" and SS (P = 0.04) when comparing the two groups (YG-NYG).

Whole body Measures

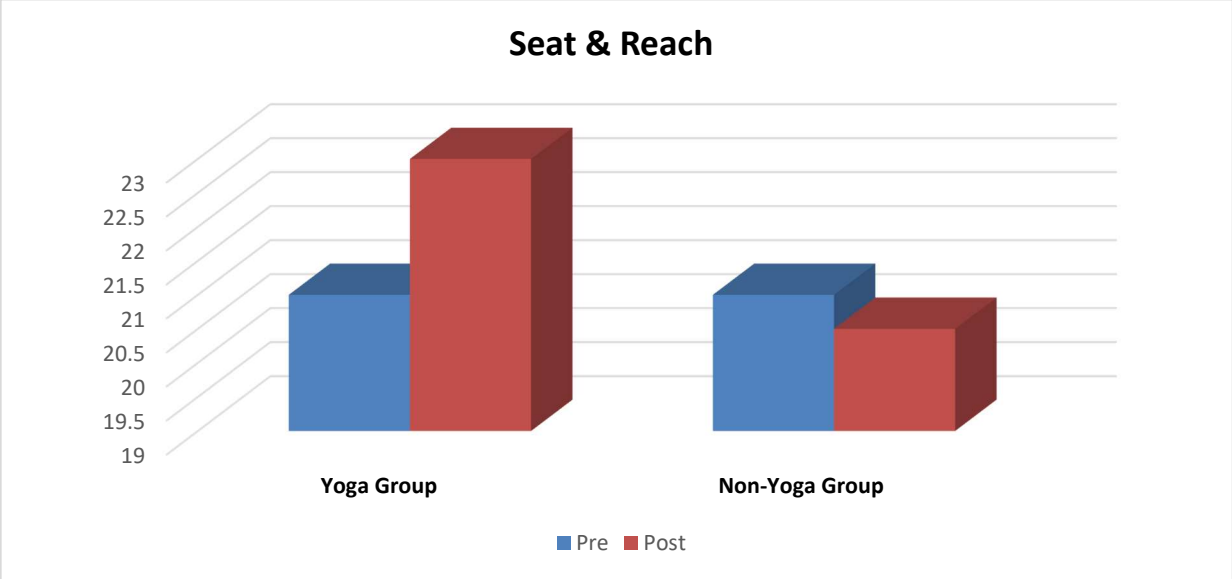
For all three positions, we compared the pre- and post-JA differences within each group (Tables 2 and 3). Figure 5 shows the position and orientation of these major JA alterations for the YG. Among the notable variations throughout "the RFL was a mean dorsiflexion increase of 6.6° (SD = 11.3; P = 0.04). The DD position showed notable variations, including an average rise of 3.7° in knee extension (P = 0.04), 10.7° in hip extension (P = 0.01), and −7.87° in shoulder flexion (P = 0.01)," with standard deviations of 8.8 and 13.1, respectively. One notable alteration while sitting was a rise of 12.9 degrees (SD=8.6) in knee flexion, which was statistically significant (P = 0.01).

"Table 1: YG and NYG Traditional Measures"

"Group	Measure	Sit Reach (Inches)	Shoulder Flexibility (inches)	Stork Stand (Seconds)
Yoga Group	Change	Increase	Increase	Increase
	Difference	1.8	-1.0	4
	p-value	0.01*	0.03*	0.03*
Non-Yoga Group	Change	Decrease	Decrease	Decrease
	Difference	-0.4	-1.0	-4.1
	p-value	0.22	-1.0	0.11
Yoga Group-Non- Yoga Group	p-value	0.04*	0.14	0.04*"

Source: Filed data

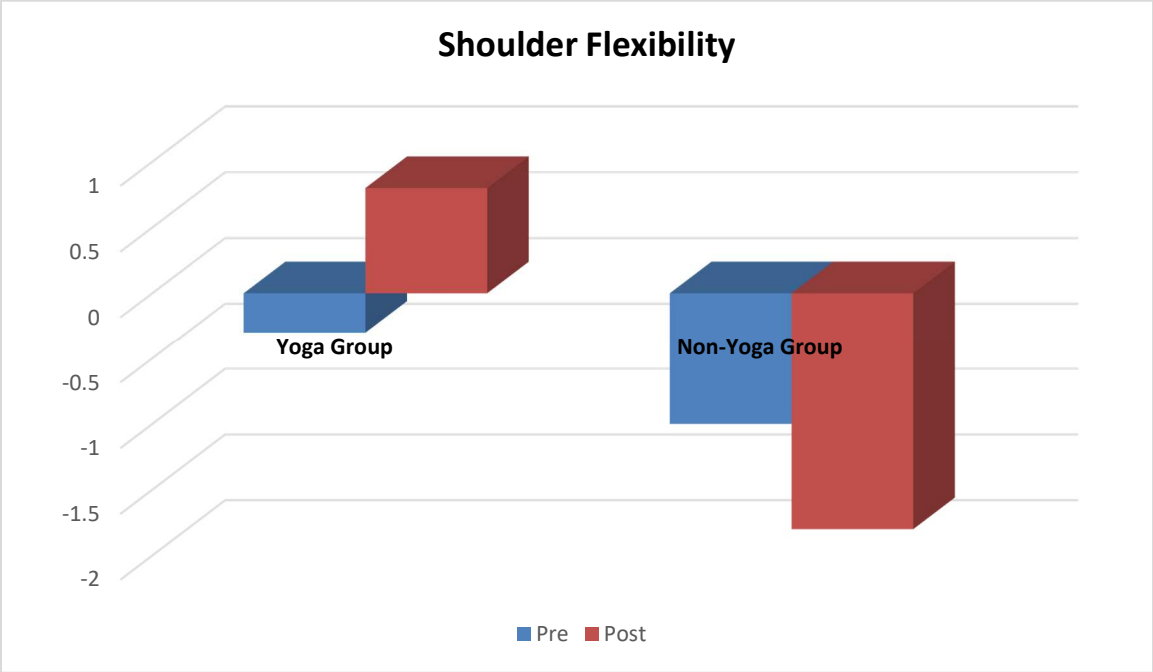
"Figure 2: Averages of pre-post seat and reach (inches) for the yoga and non-yoga groups" Source: Filed data



Cover Page

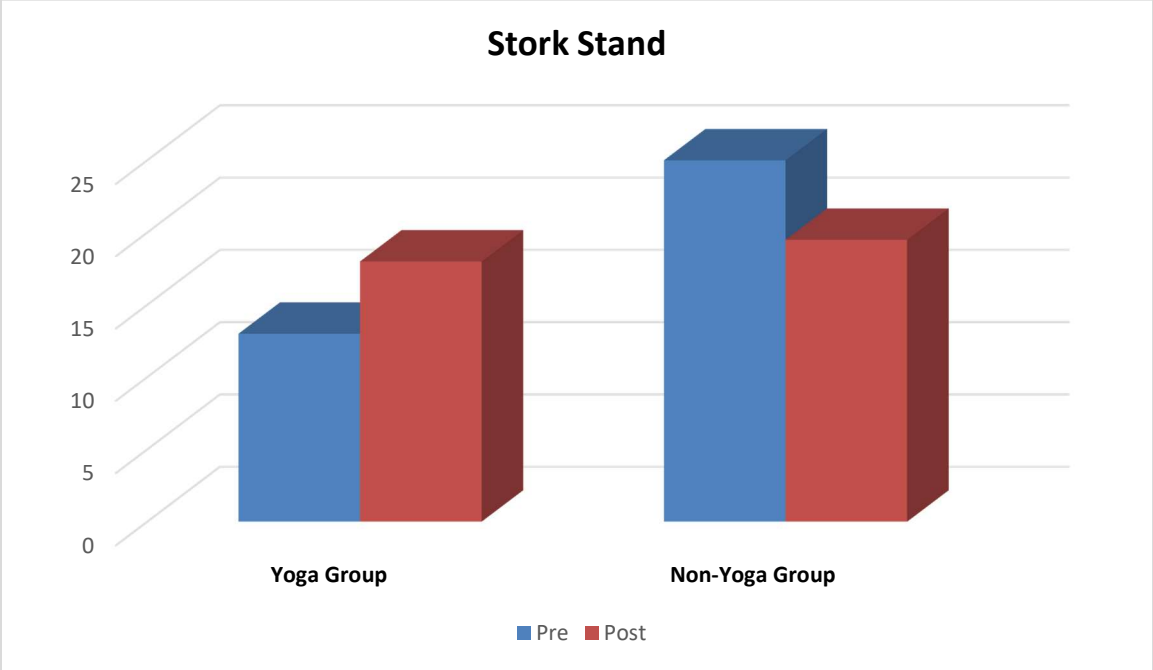
INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

"Figure 3: Average pre-post flexibility (in inches) for both the yoga and non-yoga groups"



Source: Filed data

"Figure 4: Averages of pre-post stork stands (seconds) for the yoga and non-yoga groups"



Source: Filed data

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

Regarding "the DD and chair positions," the NYG patients showed significant differences (*). Figure 6 shows the position and orientation of these major JA shifts for the NYG. A mean increase "of −11.44° (SD = 11.6) in knee flexion (P = 0.01), −11.2° (SD = 17.9) in hip flexion (P = 0.05), and −15.8° (SD = 22.2)" in shoulder flexion (P = 0.03) were among the changes noted for the DD posture. The adjustments to the chair posture included a mean rise of 9.06° in "knee flexion (P = 0.01) and a mean rise of 6.14° in shoulder extension (P = 0.05)" with standard deviations of 9.5 and 9.4, respectively, as shown in Table 3.

Additionally, in "the RFL [Figure 7], DD [Figure 8], and chair [Figure 9]' postures, there were differences across the groups (Table 4). A 9.4° "mean difference (P = 0.01)" was seen in the left ankle when comparing JA during the RFL. At the DD position, there was a 15.1° difference "in the right knee (P = 0.01) and a 21.9° difference in the right hip (P = 0.01)." When comparing YG and NYG participants in the chair posture, a significant difference of 11.7° in "the right shoulder" was noted (P = 0.02).

There were notable variations between the YG and NYG individuals, and the results for flexibility, balance, and whole-body assessments show that the YG participants benefited greatly from yoga instruction.

Discussion:

All participants in this pilot trial continued with their usual training regimens. As part of their usual warm-up routine, regular sessions include flexibility exercises, weight training, skill-specific drills, and playing the sport (in both practice and competition). The YG offered supplementary yoga instruction. Compared to not exercising, flexibility exercises and yoga are proven to increase the joint system's range of motion. [13][14] We anticipated that both groups would show improvement in flexibility testing as all of the athletes included stretching activities in their warm-ups.

Table 2: Yoga Group Joint Angle Summary

"Position	Joint	Diff	Movement	T-test (p-Value)
R-foot lunge	Right knee	−5.05	Flexion	0.12
R-foot lunge	Right hip	−1.12	Flexion	0.52
R-foot lunge	Right shoulder	3.91	Extension	0.26
R-foot lunge	Left knee	−2.68	Flexion	0.57
R-foot lunge	Left ankle	−6.56	Dorsiflexion	0.05*
Downward dog	Right ankle	−1.57	Dorsiflexion	0.51
Downward dog	Right knee	3.71	Extension	0.04*
Downward dog	Right hip	10.71	Extension	0.01*
Downward dog	Right shoulder	−7.86	Flexion	0.01*
Chair	Right ankle	−5.34	Dorsiflexion	0.10
Chair	Right knee	−12.84	Flexion	0.01*
Chair	Right hip	−1.91	Flexion	0.47
Chair	Right shoulder	−5.56	Flexion	0.22"

Source: Field data

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

Table 3: A summary of notable Non-Yoga Group joint angle differences

"Position	Joint	Diff	Movement	T-test (p-Value)
R-foot lunge	Right knee	-2.55	Flexion	0.65
R-foot lunge	Right hip	-1.05	Flexion	0.73
R-foot lunge	Right shoulder	9.26	Extension	0.21
R-foot lunge	Left knee	-6.05	Flexion	0.25
R-foot lunge	Left ankle	2.84	Dorsiflexion	0.31
Downward dog	Right ankle	-0.42	Dorsiflexion	0.92
Downward dog	Right knee	-11.45	Extension	0.01*
Downward dog	Right hip	-11.21	Extension	0.06
Downward dog	Right shoulder	-15.81	Flexion	0.03*
Chair	Right ankle	-3.38	Dorsiflexion	0.11
Chair	Right knee	-9.07	Flexion	0.01*
Chair	Right hip	-7.44	Flexion	0.07
Chair	Right shoulder	6.15	Flexion	0.05*"

Source: Field data

Figure 5: Significant changes in joint angles among the yoga group

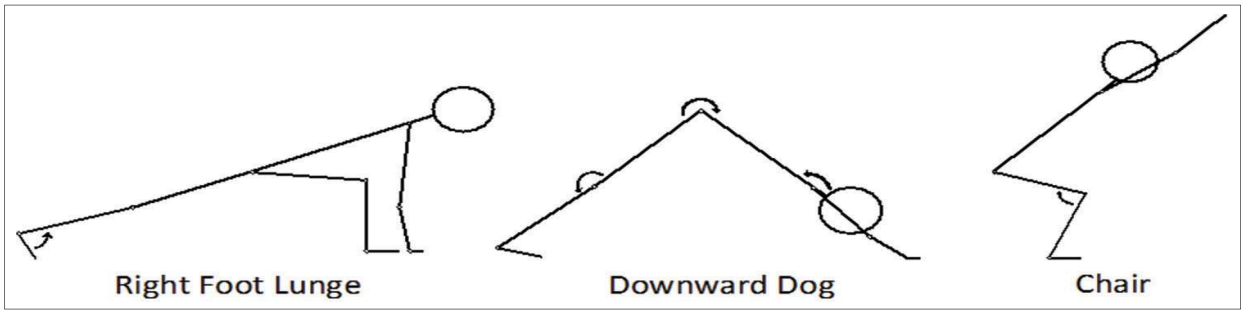
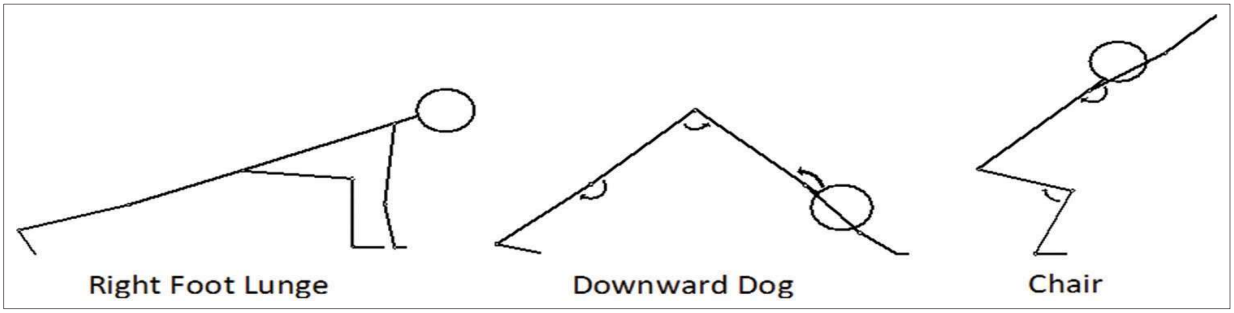


Figure 6: Significant changes in joint angles among the Non-yoga group



"Table 4: Summary of the Difference in Yoga Group and Non-Yoga Group Joint Angles"

"Position	Joint	Diff (Degrees)	Between (YG-NYG)T-test (p-Value)
R-foot lunge	Right knee	2.51	0.35

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

R-foot lunge	Right hip	0.09	0.48
R-foot lunge	Right shoulder	5.36	0.25
R-foot lunge	Left knee	3.36	0.32
R-foot lunge	Left ankle	9.41	0.01*
Downward dog	Right ankle	1.17	0.42
Downward dog	Right knee	15.14	0.01*
Downward dog	Right hip	21.91	0.01*
Downward dog	Right shoulder	7.93	0.14
Chair	Right ankle	1.96	0.28
Chair	Right knee	3.81	0.16
Chair	Right hip	5.52	0.13
Chair	Right shoulder	11.73	0.03”

Source: Field data

Our findings show that yoga training considerably improves flexibility when combined with conventional flexibility exercises for the first time. On the other hand, the flexibility decreased in some circumstances and did not increase for the NYG. Additionally, the YG individuals were more flexible than the NYG participants. Hence, ten weeks of yoga improved the players' flexibility, but “warm-up stretching did not; this finding may have significant ramifications for sports training.”

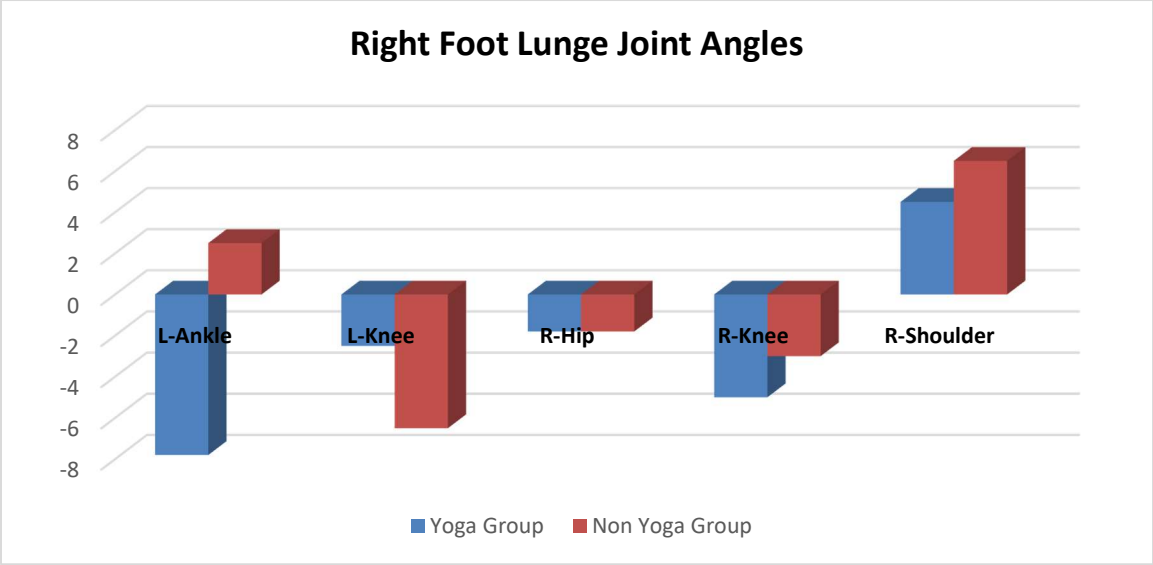
We anticipated that balance gains “would be shown in the YG and NYG athletes as their regular training regimens (free weight training and sport skill practice) taxed stability and balance.[15] Furthermore, yoga has been shown to improve balance.” We anticipated that adding a daily yoga practice would improve balance even more.[16] The YG athletes' balance improved as predicted, while the NYG athletes' did not. Yoga's effects were further shown by the fact that YG had noticeably greater balance than NYG. These results imply that adding ten weeks of yoga to a typical training regimen improves balance.

Training that simultaneously targets many aspects of fitness should improve movement performance more easily.[17] We anticipated that improvements would have happened across the board because every athlete engaged in diverse and multi-faceted training that simultaneously targets many aspects of fitness and increased ankle dorsiflexion during RFL. Still, there were no discernible differences for the athletes from NYG. “The YG athletes used higher dorsiflexion of the left ankle position, while the NYG players used a more plantarflexed posture, according to a between-groups comparison for the RFL.” These differences imply that “YG athletes” are more adept than NYG athletes in maintaining equilibrium when eccentrically stretching their posterior shank muscles.

Cover Page

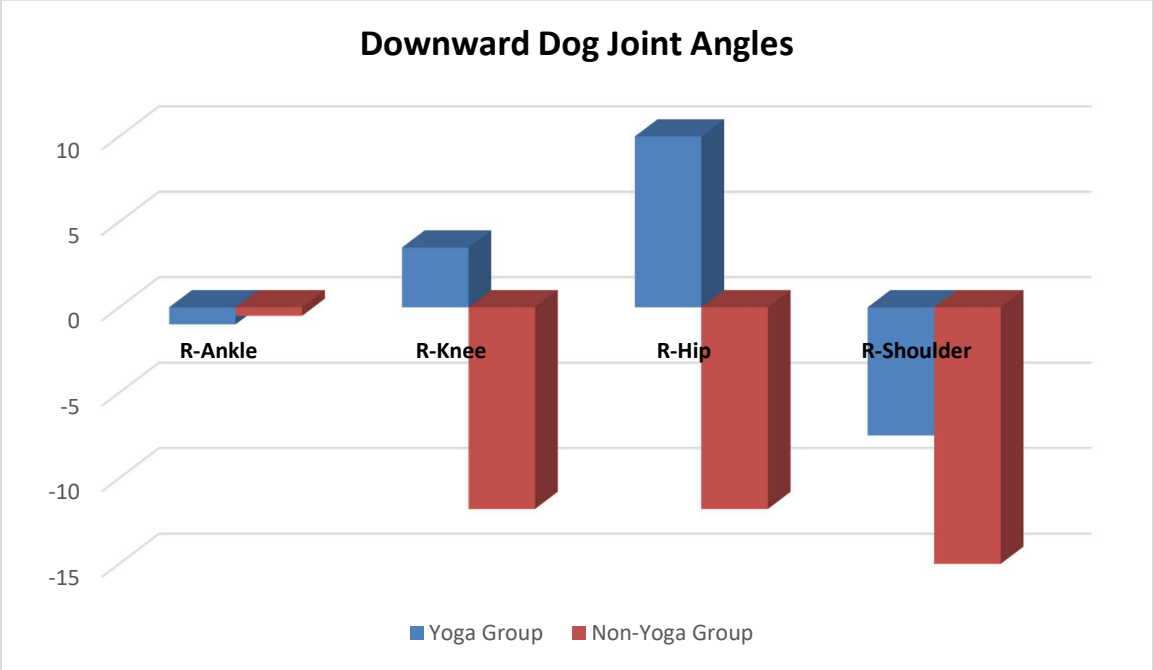
INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

"Figure 7: The average joint angle difference (in degrees) between the yoga and non-yoga groups during a right foot lunge"



Source: Field data

Figure 8: The average joint angle difference between the yoga and non-yoga groups in downward dog, expressed in degrees

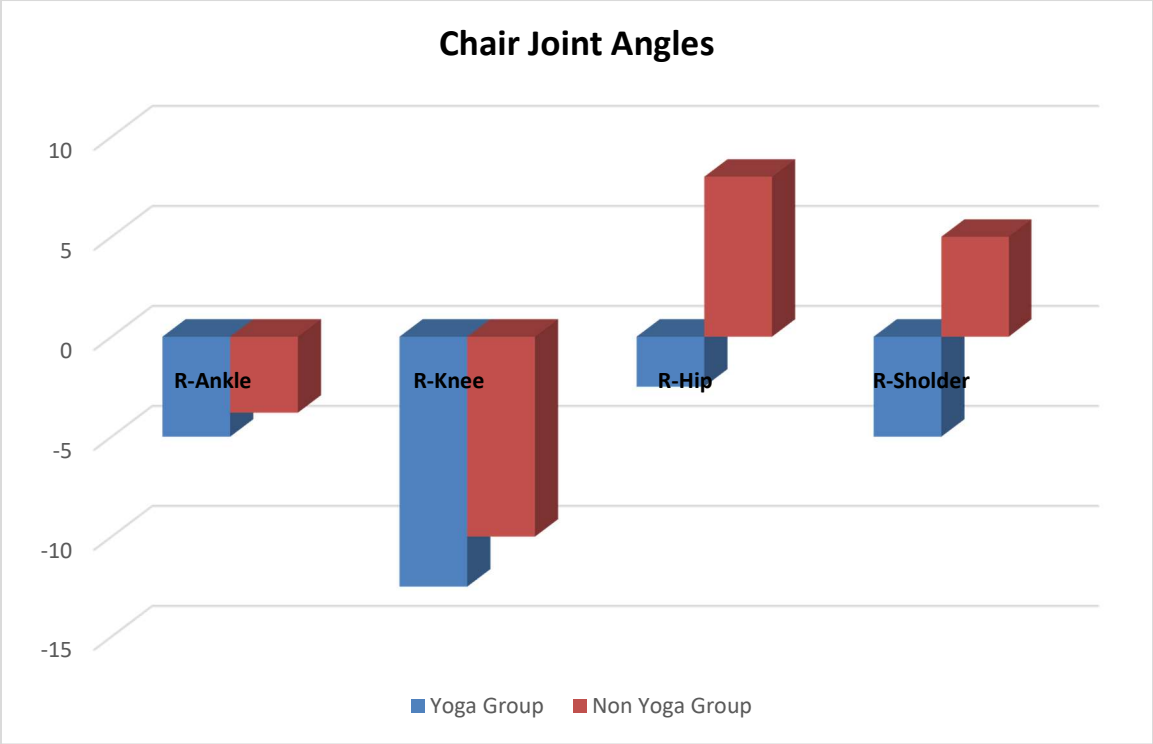


Source: Field data

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

Figure 9: The average joint angle difference between the yoga and non-yoga groups on a chair, expressed in degrees



Source: Field data

The NYG athletes exhibited much more hip flexion, shoulder extension, and knee flexion when seated in the DD posture. That is how they dropped their hips and moved "their weight downward, away from their upper bodies. These changes indicate tension in the hamstrings and lower back muscles." The YG players flexed their shoulders more, extended their knees and hips more, and performed better. Because of this, the YG athletes performed better on the DD when lengthening "the hamstrings and lower back muscles" while keeping the shoulder extended. Overall, "YG athletes" may be more able to eccentrically stress their lower back and hamstring muscles eccentrically than their NYG counterparts.

According to the alterations in their joints, "athletes in the YG and NYG groups showed more knee flexion while in the chair position." With this change came a greater shoulder extension for the NYG players. A more flexed knee posture becomes feasible when the arms are lowered to provide a counterbalance, which leads to this configuration. By comparison, the YG athletes had a more dynamic and balanced stance by keeping their shoulders in a neutral posture and bending their knees more. These differences indicate that whereas NYG athletes may bend their knees to counterbalance their weight around their centre of mass, YG athletes can keep their balance by using their lower body more actively, thanks to their more flexed shoulders.

Conclusion

This quasi-experiment was set up to highlight the potential effects of "yoga on some aspects of athletes' fitness. Athletes who did yoga for 10 weeks showed improvements in flexibility and balance tests, lending credence to this idea. Previous research suggested that YG athletes would often beat NYG competitors in terms of balance and flexibility." Improvements in whole-body measures explain the improvement in these measurements. An increase in "JA values might indicate a more

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

flexible and balanced kinetic chain." Athletes in both groups also engaged in sport-specific training programs designed to improve their abilities. But if you focus on one facet of fitness, you can end up sacrificing the others. When training the upper body, an athlete may see an increase in maximal strength and a decrease in SF if they use large weights.[18] According to this theory, one possible explanation for the decline in balance and flexibility is the specific athletic training that comes with the NYG targeting several fitness aspects, engaging their specialised fitness levels and their participation in an extra exercise that targets several aspects of fitness.

Training opportunities should be used to their fullest potential by focusing on activities that enhance athletic performance. Athletes may consider engaging in activities that improve their specialised fitness levels and overall performance, given that sports include numerous dimensions.[19]

According to our research, incorporating yoga into conventional training regimens improves the fitness factors foundational to peak athletic performance. So, yoga may be a great supplementary training tool for peak performance. Future research should focus on the effects of yoga on various aspects of fitness as they pertain to particular athletic demands or group performance in the same activity. According to our research, yoga in conventional training regimens improves the fitness factors foundational to peak athletic performance in whole-body measures, explaining the improvement in these measurements. The effects of yoga on various aspects of fitness as they pertain to particular athletic demands or group performance in the same activity should be the focus of future research. This may be the key to proving that yoga improves athletic performance.

References:

1. Woodyard, C. (2011). Exploring the therapeutic effects of yoga and its ability to increase quality of life. *International journal of yoga*, *4*(2), 49-54.
2. Harrelson, G. L., & Swann, E. (2003). Yoga, part I: An introduction. *International Journal of Athletic Therapy and Training*, *8*(5), 32-34.
3. Mueller, D. (2002). Yoga therapy. *ACSM's Health & Fitness Journal*, *6*(1), 18-24.
4. Goel, M. (2015). Yoga-A Way of Life and Its Importance in Sports. *International Journal of Recent Research Aspects*, *2*(1), 171-172.
5. Carson, J. (2019). *Yoga and Meditation at the Library: A Practical Guide for Librarians* (Vol. 64). Rowman & Littlefield.
6. Cedric, X. B. (2010). ACE Personal Trainer Manual The Ultimate Resource for Fitness Professionals Fourth Edition. *USA: American Council on Exercise*.
7. Cissik, J. (2019). *Strength and conditioning: a concise introduction*. Routledge.
8. Anderson, S., & Sovik, R. (2000). *Yoga: Mastering the basics*. Himalayan Institute Press.
9. Devananda, S. V. (2011). *The complete illustrated book of yoga*. Harmony.
10. Hewitt, J. (2012). *The complete yoga book: The Yoga of breathing, posture and meditation*. Random House.
11. Carrico, M. (1997). *Yoga Journal's yoga basics: the essential beginner's guide to yoga for a lifetime of health and fitness*. Macmillan.
12. Latash, M. L. (2008). *Neurophysiological basis of movement*. Human Kinetics.
13. Witvrouw, E., Mahieu, N., Danneels, L., & McNair, P. (2004). Stretching and injury prevention: an obscure relationship. *Sports medicine*, *34*, 443-449.
14. McHugh, M. P., & Cosgrave, C. H. (2010). To stretch or not to stretch: the role of stretching in injury prevention and performance. *Scandinavian journal of medicine & science in sports*, *20*(2), 169-181.
15. Zech, A., Hübscher, M., Vogt, L., Banzer, W., Hänsel, F., & Pfeifer, K. (2010). Balance training for neuromuscular control and performance enhancement: a systematic review. *Journal of Athletic Training*, *45*(4), 392-403.
16. Ibid

Cover Page

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY EDUCATIONAL RESEARCH
ISSN:2277-7881(Print); IMPACT FACTOR :9.014(2025); IC VALUE:5.16; ISI VALUE:2.286
PEER REVIEWED AND REFEREED INTERNATIONAL JOURNAL
(Fulfilled Suggests Parametres of UGC by IJMER)
Volume:14, Issue:9(2), September, 2025
Scopus Review ID: A2B96D3ACF3FEA2A
Article Received: Reviewed : Accepted
Publisher: Sucharitha Publication, India
Online Copy of Article Publication Available : www.ijmer.in

17. Lloyd, R. S., Meyers, R. W., & Oliver, J. L. (2011). The natural development and trainability of plyometric ability during childhood. *Strength & Conditioning Journal*, *33*(2), 23-32.
18. Huang, Z., Ji, H., Chen, L., Zhang, M., He, J., Zhang, W., ... & Li, D. (2023). Comparing autoregulatory progressive resistance exercise and velocity-based resistance training on jump performance in college badminton athletes. *PeerJ*, *11*, e15877.
19. Ibid