Current Clinical and Medical Education

Received 20 Feb 2025 | Accepted 14 Mar 2025 | Published Online 18 Apl 2025

Published By: Vision Publisher

CCME 3 (4), 23-32

ISSN 2942-0792

Application of Yoga Exercises to Enhance Motor Coordination Ability for Students of Physical Education at Hanoi Pedagogical University 2

Dr. Ha Minh Diu[1], Dr. Le Thi Ngoc Mai[2]

[1,2]Department of Physical Education, Hanoi Pedagogical University 2, Vinh Phuc, VIETNAM

Abstract:

Utilizing standard scientific research methodologies in physical education, this study identified ten yoga exercises designed to improve motor coordination among physical education students at Hanoi Pedagogical University 2. In addition, three evaluative tests were implemented to assess the effectiveness of these yoga interventions. The application of these exercises demonstrated a significant enhancement in flexibility and motor coordination, particularly among female students. Consequently, the findings corroborate that yoga not only cultivates flexibility but also establishes a robust foundation for sustainable health, thereby contributing critically to the pedagogy of Aerobic instruction within the institution.

Keywords: Yoga; motor coordination; Aerobic; physical education students; Hanoi Pedagogical University 2.

Corresponding Author: Dr. Ha Minh Diu†, Department of Physical Education, Hanoi Pedagogical University 2, Vinh Phuc, VIETNAM

Introduction

In contemporary physical education, the comprehensive development of a student's physical qualities transcends mere muscular strength or endurance; it also encompasses flexibility and motor coordination. For physical education majors, these abilities are essential as they directly influence the efficacy of learning and teaching specialized subjects—such as Aerobic, Sport Dance, and other complex motor activities.

Yoga, an ancient yet highly effective training method, has found widespread application in both the sporting and physical education sectors due to its positive impacts on both physical fitness and mental well-being. A substantial body of research indicates that yoga not only enhances muscular endurance and flexibility but also improves neuromuscular control and the coordination of muscle groups during movement (see, for example, works by

Woodyard, C. (2011); Gothe, N. P., Khan, J. L., & McAuley, E. (2019); Garip, G., & Morton, D. (2023); Khajuria, A., Kumar, A., & Kumaran, S. S. (2023); Field, T. (2020); World Health Organization (2022); National Center for Complementary and Integrative Health (2022).

Despite the existing literature on the overall health benefits of yoga, there remains a notable gap regarding the in-depth investigation and application of yoga exercises specifically aimed at enhancing motor coordination in physical education students. This study addresses that gap by focusing on the development of coordinated motor skills through a structured yoga regimen—a critical component in modern physical education that underpins the performance in disciplines such as Aerobic, Sport Dance, and rhythmic gymnastics.

The research adopted a multi-method approach incorporating:

Document analysis and synthesis of relevant literature;

Focus group discussions and in-depth interviews;

Pedagogical testing procedures;

Social surveys; and

Quantitative statistical analysis.

2. Methods and Materials

Participants

The study was conducted among female physical education students enrolled at Ha Noi 2 University of Education. A total of 30 students were recruited and subsequently randomized into two equal groups: an experimental group (n = 15) and a control group (n = 15). The participants were selected based on their enrollment in the physical education program and their consent to participate in both the intervention and the evaluation procedures.

Materials

Testing Instruments.

Three motor coordination tests were employed to objectively assess the participants' neuromuscular performance before and after the intervention. These instruments included:

Sun Salutation Sequence Test: Participants performed a standardized series of movements, with scores calculated based on execution precision and fluidity.

Tree Pose – Eyes Closed – Leg Switch Test: This measure evaluated balance, proprioceptive awareness, and interlimb coordination by instructing participants to maintain a static posture while executing sequential leg switches with their eyes closed.

Combination Test of Warrior II and Alternating Arm Movements: Designed to assess dynamic motor coordination, this test required the integration of a stable lower-body posture with timed, alternating upper-limb movements.

Prior to inclusion in the study, these tests underwent a rigorous reliability assessment using a re-test protocol. All tests demonstrated high reliability with correlation coefficients (r) equal to or exceeding 0.8 ($P < 0.05$).

Yoga Exercises.

From an initial pool of 20 candidate exercises identified through an extensive literature review and preliminary expert consultations, ten yoga exercises were selected based on their potential to enhance motor coordination and flexibility. The selection process involved obtaining a minimum of 70% agreement among experts—comprising instructors, experienced coaches, and yoga specialists—using structured interviews and questionnaires. The final set of exercises incorporated both static postures (e.g., Tree Pose) and dynamic sequences (e.g., Sun Salutation and flow sequences) to provide a comprehensive stimulus for developing neuromuscular control.

Procedures

Experimental Design.

The study followed a controlled experimental design over a period of 24 weeks. The intervention consisted of thrice-weekly sessions (Tuesday, Thursday, and Saturday), with each session lasting 60 minutes. Within each session, the core training period spanned 45 minutes and was dedicated to practicing the selected yoga exercises. The program was designed to progressively challenge and enhance motor coordination through a structured sequence of movements, interspersed with controlled rest and recovery phases that incorporated deep breathing and relaxation postures.

Preliminary Phase.

Before the commencement of the intervention, the selected motor coordination tests were administered to both the experimental and control groups to establish baseline performance. In parallel, expert interviews were conducted to validate the content and appropriateness of the chosen tests and yoga exercises. These interviews ensured that the measurement tools were theoretically sound and practically applicable for evaluating the motor coordination capabilities of physical education students.

Intervention Implementation.

During the intervention, the experimental group underwent the structured yoga training program while the control group continued with their regular physical education curriculum. Each yoga session was meticulously planned:

Exercises were organized into sets and repetitions (e.g., three sets with designated durations or repetitions per exercise), with predefined rest intervals optimized to maintain participant engagement and performance quality.

A detailed session protocol was maintained to ensure consistency across training sessions and to minimize variations in implementation.

Regular monitoring and feedback were provided by instructors to ensure proper technique and adherence to the training regimen.

Post-Intervention Assessment.

Upon completion of the 24-week intervention, both groups were re-assessed using the same battery of motor coordination tests. Data were collected immediately following the intervention as well as at a four-month follow-up to evaluate both the immediate and sustained effects of the yoga program on motor coordination. The results from the control and experimental groups were compared using appropriate statistical tests to determine the significance of any observed improvements.

Data Analysis

Quantitative data were analyzed using inferential statistical techniques. Paired t-tests were employed to compare pre- and post-intervention test scores within each group. Additionally, independent sample t-tests were conducted to assess differences in performance outcomes between the experimental and control groups at both post-intervention and follow-up stages. A significance level of $P \leq 0.05$ was maintained for all analyses, ensuring that the improvements in motor coordination could be reliably attributed to the yoga intervention. The high re-test reliability ($r \geq 0.8$) of the selected tests further validated the robustness of the measurement instruments.

Qualitative data derived from expert interviews and structured questionnaires were triangulated with the quantitative findings to enhance the validity of the study's outcomes. This mixed-methods approach allowed for a more comprehensive assessment of both the implementation process and the efficacy of the intervention.

3. Results

Selection of Tests for Evaluating Students' Motor Coordination Ability.

In order to assess motor coordination ability, interviews were conducted with instructors, experts, and experienced coaches. Only those tests that achieved at least a 70% agreement rate were selected for further investigation. The interview outcomes are presented in Table 1.

Table 1. Results of interviews for selecting tests to evaluate students' motor coordination ability (n = 15)

TT	Test Content	Very Appropriate (n, %)	Appropriate (n, %)	Not Appropriate (n, %)
1	"Sun Salutation Sequence by Command"	15 (100%)	0 (0%)	0 (0%)
2	"Tree Pose – Eyes Closed – Leg Switch"	14 (93.3%)	1 (6.7%)	0 (0%)
3	"Spinal Flexion Test"	5 (33.3%)	3 (20.0%)	7 (46.7%)
4	"Combination of Warrior II Pose with Alternating Arm Movements"	14 (93.3%)	1 (6.7%)	0 (0%)
5	"Prone Spinal Flexion Test"	6 (40.0%)	3 (20.0%)	6 (40.0%)

As shown in Table 1, the interview results led to the selection of three tests that experienced experts and coaches rated as highly appropriate (with over 90% agreement) for effectively evaluating students' motor coordination ability.

To verify the reliability of these selected tests, a re-test procedure was implemented and the correlation coefficients between the two testing sessions for the three tests were examined. All the correlation coefficients reached or exceeded $r \geq 0.8$ with $P < 0.05$, demonstrating that the tests are sufficiently reliable for use. Hence, these three tests were adopted to assess the motor coordination ability of the students.

Selection of Yoga Exercises to Develop Students' Motor Coordination Ability.

Based on a comprehensive literature review and consultation with instructors, an initial set of 20 yoga exercises was identified. In order to establish a practical and objective basis for selecting the most appropriate exercises, further interviews were conducted directly with teaching staff, coaches, and yoga experts. They evaluated the exercises for their potential to enhance motor coordination after 12 months of training. Out of 15 distributed questionnaires, all were returned, and only exercises that received at least a 70% agreement rate were incorporated into the subsequent research phase. The results of these interviews are presented in Table 2.

Table 2. Interview results for selecting yoga exercises to enhance students' motor coordination ability (n = 15)

TT	Exercise Description	Very Appropriate (n, %)	Appropriate (n, %)	Not Appropriate (n, %)
1	Tree Pose combined with instructed arm rotation	13 (86.6%)	1 (6.7%)	1 (6.7%)
2	Wheel Pose (Chakrasana)	6 (40.0%)	3 (20.0%)	6 (40.0%)
3	Sun Salutation Pose	15 (100%)	0 (0%)	0 (0%)
4	Flow Sequence: "Warrior I – Warrior III – Tree Pose"	12 (73.3%)	2 (13.3%)	1 (6.7%)
5	Dolphin Pose	5 (33.3%)	6 (40.0%)	4 (26.7%)
6	Sequence combining Warrior, Triangle, and Forward Fold	11 (73.3%)	3 (20.0%)	1 (6.7%)
7	"Leaning Table" Pose combined with cross-extending the arm and leg	14 (93.3%)	0 (0%)	0 (0%)
8	Crow Pose	5 (33.3%)	6 (40.0%)	4 (26.7%)
9	"Spinal Twist" Pose combined with commanded lateral arm raises	12 (73.3%)	2 (13.3%)	1 (6.7%)
10	Zigzag movement combined with holding the "Pigeon Pose" at each turning point	12 (66.7%)	5 (33.3%)	0 (0%)

11	Cat Pose	8 (53.3%)	5 (33.3%)	2 (13.4%)
12	Locust Pose	7 (46.6%)	6 (40.0%)	2 (13.4%)
13	Sequence: Cat – Cow – Spinal Twist – Child's Pose	14 (93.3%)	0 (0%)	0 (6.7%)
14	Cobra Pose combined with instructed lateral gazing	14 (93.3%)	0 (0%)	0 (6.7%)
15	Sequence: Tree Pose – Warrior III – Forward Fold with extended legs	15 (100%)	0 (0%)	0 (0%)

Based on the results presented in Table 2, ten yoga exercises were ultimately selected to develop flexibility in the Aerobic team. These exercises were chosen based on an agreement rate exceeding 70% among the evaluators. The selected exercises are as follows:

Exercise 1: Tree Pose combined with instructed arm rotation (3 sets; 20 seconds per side, 30-second rest intervals, with deep breathing and a stabilizing standing posture for mental focus).

Exercise 2: Sun Salutation Pose (5–8 repetitions; hold each pose for 5 seconds with 5-second pauses between sequences, followed by active seated rest with deep breathing).

Exercise 3: Flow Sequence "Warrior I – Warrior III – Tree Pose" (3 sets; hold each pose for 20 seconds with a 1-minute rest period, interspersed with Child's Pose as a relaxation phase).

Exercise 4: Sequence of Warrior – Triangle – Forward Fold (3 sets; hold each pose for 15–20 seconds with a 1-minute rest, followed by calm breathing and relaxed standing).

Exercise 5: "Leaning Table" Pose combined with cross-extending the arm and leg (3 sets; 10–15 repetitions per side with 1-minute rest intervals, using Forward Fold as the recovery posture).

Exercise 6: Spinal Twist Pose combined with instructed simultaneous/contralateral arm lifts (3 sets; 10 seconds per side with 30-second rests, accompanied by deep breathing as recovery).

Exercise 7: Zigzag movement combined with holding the "Pigeon Pose" (3 rounds; hold each stop for 10 seconds with a 1-minute rest after each round, with "Meditative Pose" as the recovery posture).

Exercise 8: Sequence combining Cat, Cow, Spinal Twist, and Child's Pose (3 sets; each pose lasting 4–6 breathing cycles with 1-minute breaks between sets, followed by a relaxation posture lying down).

Exercise 9: Cobra Pose combined with instructed lateral gaze (3 sets; 10–15 repetitions per set with a 1-minute rest, using Child's Pose as recovery).

Exercise 10: Sequence "Tree Pose – Warrior III – Forward Fold with Extended Legs" (3 sets; hold each pose for 15–20 seconds with a 1-minute rest, concluding with a deep-breathing Forward Fold).

Evaluation of the Effectiveness of the Yoga Exercises in Enhancing Motor Coordination Ability for Physical Education Students

Experimental Protocol

To assess the effectiveness of the selected yoga exercises, a 24-week experimental program was implemented. The training was conducted three times per week (Tuesday, Thursday, and Saturday afternoons), with each session lasting 60 minutes. Of these 60 minutes, the core portion of the session spanned 45 minutes.

Assessment of the Effectiveness of the Yoga Exercises

To evaluate the impact of incorporating yoga exercises for enhancing motor coordination ability among physical education students, the three selected tests (as detailed in Section 2.1) were employed. The pre- and post-experiment test results are summarized in Table 3.

Table 3. Pre-experimental motor coordination test results for students (n = 30)

TT	Test Description	Control Group (n = 15) Mean ± SD	Experimental Group (n = 15) Mean ± SD	t-value ($t_{0.5} = 1.96$)	P-value
1	Sun Salutation Sequence Test (points)	6.20 ± 0.30	6.44 ± 0.36	0.228	0.05
2	Tree Pose – Eyes Closed – Leg Switch Test (points)	6.83 ± 0.31	6.83 ± 0.28	0.434	0.05
3	Combination Test of Warrior II and Alternating Arm Movements (points)	6.17 ± 0.32	6.24 ± 0.27	0.356	0.05

As evidenced by Table 3, the post-experiment evaluation indicates that the yoga exercises effectively enhanced motor coordination skills among female physical education students. This efficacy is supported by the fact that all the tests yielded t-values exceeding the critical value with a significance level of $P \leq 0.05$.

To further determine the degree of impact of these exercises, the experimental process was concluded with additional testing after four months on both the control and experimental groups. The final results are presented in Table 4.

Table 4. Post-experimental test results for the control and experimental groups (n = 15 per group)

TT	Test Description	Control Group (Mean ± SD)	Experimental Group (Mean ± SD)	t-value ($t_{0.5} = 1.96$)	P-value
1	Sun Salutation Sequence Test (points)	7.15 ± 0.44	7.50 ± 0.40	2.88	0.05
2	Tree Pose – Eyes Closed – Leg Switch Test (points)	7.25 ± 0.41	7.81 ± 0.43	3.157	0.05
3	Combination Test of Warrior II and Alternating Arm Movements (points)	6.95 ± 0.38	7.39 ± 0.36	2.729	0.05

Table 4 demonstrates that the final test results for both the control and experimental groups are statistically significant (with all t-values exceeding the critical value of 1.96 and $P < 0.05$). In other words, at the conclusion of the experimental phase, the experimental group's motor coordination ability was markedly superior to that of the control group. This finding substantiates the effectiveness of the yoga exercises applied to physical education students.

A graphical representation (Figure 1) illustrates the upward trend in test scores for both groups across the experimental period.

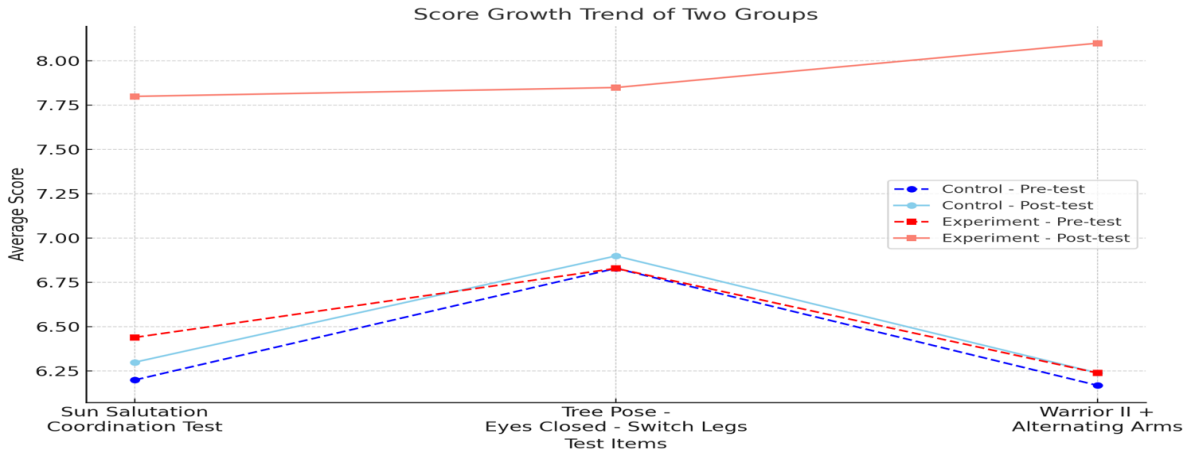

Fig 1: illustrates the upward trend in test scores for both groups across the experimental period.

4. Discussion

The present study investigated the efficacy of a structured yoga exercise program in enhancing motor coordination ability among female physical education students. The results indicate that the selected yoga exercises not only improve flexibility and neuromuscular control but also lead to measurable improvements in motor coordination, as evidenced by statistically significant differences in performance between the experimental and control groups. These findings are consistent with previous research that has documented yoga's beneficial influence on physical fitness and coordination (Woodyard, 2011; Gothe, Khan, & McAuley, 2019; Field, 2020).

Integration of Yoga in Physical Education

The experimental protocol spanned 24 weeks, incorporating three 60-minute sessions per week. The intervention primarily focused on a set of ten yoga exercises chosen through a rigorous selection process involving both expert opinion and pilot testing. This comprehensive approach ensured that only those exercises with a high level of consensus regarding their appropriateness for enhancing motor coordination were implemented. The resultant improvement in test scores—as seen in both the immediate post-intervention assessments (Table 3) and the final assessments (Table 4)—suggests that these exercises effectively target neuromuscular pathways associated with coordinated movement.

These results resonate with theoretical models proposing that yoga enhances intermuscular coordination by fostering greater proprioceptive awareness and improving the efficiency of neuromuscular interactions (Garip & Morton, 2023). The significant increases in test scores in the experimental group, relative to the control group, underscore the potential of yoga as a pedagogical tool in physical education. In modern sports training and physical education, the development of motor coordination is increasingly recognized as fundamental—not only for athletic performance but also for lifelong functional fitness (National Center for Complementary and Integrative Health, 2022).

Mechanisms of Improvement

Yoga is known to influence the neuromuscular system through its emphasis on controlled, deliberate movements synchronized with breath regulation. This study's findings suggest that such practices enhance motor coordination by reinforcing the central nervous system's ability to coordinate complex movements efficiently. In alignment with previous research (Gothe, Khan, &McAuley, 2019), the re-test reliability ($r \geq 0.8$, $P < 0.05$) and significant post-intervention improvements indicate that yoga can serve as a robust training modality for improving motor coordination.

Furthermore, the improvement observed among the experimental group may be attributed to the specific design of the exercise sequences, which alternated between static postures (e.g., Tree Pose) and dynamic sequences (e.g., Sun Salutation and flow sequences). Static postures are known to increase proprioceptive acuity and balance (Khajuria, Kumar, & Kumaran, 2023), while dynamic sequences improve coordination by challenging the body to shift weight and balance during movement. The combination of these modalities creates a holistic training environment that enhances both the quality of movement and motor control efficiency.

Pedagogical Implications for Physical Education

The implications of this study for physical education are twofold. Firstly, the demonstrated effectiveness of yoga in enhancing motor coordination supports its inclusion as an adjunctive training method for physical education curricula. This is particularly significant for programs aimed at preparing students for disciplines that demand a high degree of movement coordination, such as aerobic and rhythmic gymnastics. The reliable gains in motor coordination suggest that implementing yoga could contribute to more efficient teaching strategies and improved athletic performance (Field, 2020).

Secondly, the incorporation of yoga exercises in the educational setting not only cultivates physical abilities but also contributes to mental well-being. Numerous studies have highlighted yoga's role in reducing stress and promoting mental focus (Woodyard, 2011; National Center for Complementary and Integrative Health, 2022). Such benefits are particularly valuable in educational contexts where students face both academic and physical performance demands.

Thus, yoga provides a dual benefit by enhancing motor coordination and fostering an overall state of well-being, which can translate to better academic and athletic outcomes.

Comparison with Prior Studies

While there is a substantial body of evidence supporting yoga's positive effects on flexibility and overall physical fitness, the present study contributes to the literature by specifically focusing on motor coordination among physical education students—a relatively underexplored area. Previous work (e.g., Gothe et al., 2019; Field, 2020) has primarily addressed the broader benefits of yoga on cognitive and physical health; however, few studies have isolated motor coordination as the primary outcome. The significant improvement in the experimental group's test results confirms that targeted yoga training can yield specific benefits in coordination. This finding fills a critical gap in the literature and provides a compelling case for expanding the use of yoga-based interventions in sports and physical education curricula.

Limitations and Future Directions

Despite the promising findings, several limitations of the study warrant consideration. The sample was limited to female physical education students from a single institution, which may affect the generalizability of the results. Future research should consider a more diverse sample, including male students and participants from different educational backgrounds, to examine whether similar benefits are observed across broader populations.

Additionally, while the reliability of the tests was confirmed through re-test procedures, further studies might employ more sophisticated biomechanical assessments (e.g., motion capture analysis) to provide deeper insights into the neuromuscular changes resulting from yoga practice. Longitudinal research extending beyond 24 weeks could also assess the durability of the improvements in motor coordination and determine whether continued practice yields further benefits.

Finally, integrating qualitative feedback from students regarding their experiences and perceived improvements might enrich future studies. Such mixed-method approaches could offer a more comprehensive understanding of both the physical and psychosocial benefits of yoga in educational settings, as suggested by the multi-dimensional benefits highlighted in complementary studies (Cramer et al., 2014).

Synthesis and Practical Applications

In summary, the present research confirms that a structured yoga exercise program can significantly enhance motor coordination abilities among physical education students. By incorporating a combination of static postures and dynamic sequences, the program appears to stimulate improvements in both neuromuscular control and proprioceptive function. These outcomes offer clear pedagogical benefits by providing educators with a viable tool to strengthen essential motor skills, which are critical for both competitive athletics and lifelong physical fitness.

The study's integration of rigorous testing protocols, expert validation of exercise selection, and statistically significant findings provides a solid foundation for advocating the incorporation of yoga into physical education curricula. This evidence-based approach not only justifies the application of yoga in academic settings but also offers actionable insights for curriculum developers and physical education practitioners aiming to promote comprehensive motor development.

5. Conclusion

In conclusion, the study provides compelling evidence that a carefully structured yoga program can significantly enhance motor coordination in physical education students. The statistically significant improvements observed in the experimental group validate the effectiveness of yoga exercises as a means to develop both neuromuscular control and overall motor performance. These findings support the inclusion of yoga in physical education curricula as a multifaceted intervention that promotes both physical fitness and mental well-being. Future research should aim to expand on these results by incorporating a broader participant base and more advanced biomechanical measures to further elucidate the underlying mechanisms of improvement.

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. https://doi.org/10.4103/0973-6131.85485
2. Gothe, N. P., Khan, J. L., & McAuley, E. (2019). Yoga effects on brain health: A systematic review of the current literature. *Brain Plasticity, 5*(1), 105–122. https://doi.org/10.3233/BPL-190084
3. Garip, G., & Morton, D. (2023). Perceived benefit of yoga among adults who have practiced yoga for a minimum of five years. *BioPsychoSocial Medicine, 17*(1), 1–10. https://doi.org/10.1186/s13030-023-00276-3
4. Khajuria, A., Kumar, A., & Kumaran, S. S. (2023). Reducing stress with yoga: A systematic review based on randomized controlled trials. *International Journal of Yoga, 16*(3), 199–205. https://doi.org/10.4103/ijoy.ijoy_5_23
5. Field, T. (2020). Yoga research: A narrative review. *Journal of Yoga & Physical Therapy, 10*(3), 1–5. https://doi.org/10.35248/2157-7595.20.10.300
6. World Health Organization. (2022). Yoga for humanity. *WHO Southeast Asia*. https://www.who.int/southeastasia/news/opinion-editorials/detail/yoga-for-humanity
7. National Center for Complementary and Integrative Health. (2022). Yoga: Effectiveness and safety. *NCCIH*. https://www.nccih.nih.gov/health/yoga-effectiveness-and-safety
8. Cramer, H., Lauche, R., & Dobos, G. (2014). Characteristics of randomized controlled trials of yoga: A bibliometric analysis. *BMC Complementary and Alternative Medicine, 14*, 328. https://doi.org/10.1186/1472-6882-14-328
9. Sharma, M. (2014). Yoga as an alternative and complementary approach for stress management: A systematic review. *Journal of Evidence-Based Complementary & Alternative Medicine, 19*(1), 59–67. https://doi.org/10.1177/2156587213503344
10. Pascoe, M. C., & Bauer, I. E. (2015). A systematic review of randomised control trials on the effects of yoga on stress measures and mood. *Journal of Psychiatric Research, 68*, 270–282. https://doi.org/10.1016/j.jpsychires.2015.07.013
11. Cramer, H., Ward, L., Steel, A., Lauche, R., Dobos, G., & Zhang, Y. (2016). Prevalence, patterns, and predictors of yoga use: Results of a U.S. nationally representative survey. *American Journal of Preventive Medicine, 50*(2), 230–235. https://doi.org/10.1016/j.amepre.2015.07.037
12. Büssing, A., Michalsen, A., Khalsa, S. B. S., Telles, S., & Sherman, K. J. (2012). Effects of yoga on mental and physical health: A short summary of reviews. *Evidence-Based Complementary and Alternative Medicine, 2012*, 165410. https://doi.org/10.1155/2012/165410
13. Ross, A., & Thomas, S. (2010). The health benefits of yoga and exercise: A review of comparison studies. *Journal of Alternative and Complementary Medicine, 16*(1), 3–12. https://doi.org/10.1089/acm.2009.0044
14. Cramer, H., Lauche, R., Langhorst, J., & Dobos, G. (2013). Yoga for depression: A systematic review and meta-analysis. *Depression and Anxiety, 30*(11), 1068–1083. https://doi.org/10.1002/da.22166
15. Telles, S., Singh, N., & Balkrishna, A. (2012). Role of yoga in the prevention and management of type 2 diabetes. *Alternative Therapies in Health and Medicine, 18*(3), 16–20.
16. Sherman, K. J., Cherkin, D. C., Erro, J., Miglioretti, D. L., & Deyo, R. A. (2005). Comparing yoga, exercise, and a self-care book for chronic low back pain: A randomized, controlled trial. *Annals of Internal Medicine, 143*(12), 849–856. https://doi.org/10.7326/0003-4819-143-12-200512200-00003
17. Innes, K. E., & Selfe, T. K. (2016). Yoga for adults with type 2 diabetes: A systematic review of controlled trials. *Journal of Diabetes Research, 2016*, 6979370. https://doi.org/10.1155/2016/6979370

18. Birdee, G. S., Legedza, A. T., Saper, R. B., Bertisch, S. M., Eisenberg, D. M., & Phillips, R. S. (2008). Characteristics of yoga users: Results of a national survey. *Journal of General Internal Medicine, 23*(10), 1653–1658. https://doi.org/10.1007/s11606-008-0735-5

19. Cramer, H., Lauche, R., Haller, H., Langhorst, J., & Dobos, G. (2014). A systematic review and meta-analysis of yoga for low back pain. *Clinical Journal of

Source: Excerpted from the 2020 Basic-Level Scientific Research Project "Constructing a Basic Sports Dance Ensemble to Enhance Motor Coordination Ability for Physical Education Students at Hanoi Pedagogical University 2."