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Synergistic Effects of Integrated Proprioceptive-Yogic Training on Physical and Psychological Performance in Female Handball Players: A Randomized Controlled Trial

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ABSTRACT

The present study investigates the isolated and combined effects of proprioceptive training and yogic practices on performance-related fitness variables and psychological characteristics of female handball players. Recognizing the growing importance of both physical and psychological conditioning in sports performance, this study aimed to evaluate how targeted interventions in proprioceptive stimulation and yoga-based mind-body techniques influence agility, explosive power, endurance, breath-holding time, and self-confidence among athletes. A total of 60 female handball players were randomly divided into four groups: Proprioceptive Training Group (PTG), Yogic Practices Group (YPG), Combined Training Group (CTG), and Control Group (CG). The training interventions were conducted over a period of 8 weeks. Pre- and post-test data were collected using standardized fitness assessments and validated psychological scales. The data were analysed using Analysis of Covariance (ANCOVA) followed by Scheffé's post hoc test to determine significant differences between groups. The results revealed that both isolated and combined training interventions significantly improved the selected physical and psychological variables, with the combined group showing the most substantial enhancements. These findings support the incorporation of integrated training protocols in handball to holistically enhance athlete performance and psychological resilience.

Keywords: *Proprioceptive Training, Yogic Practices, Performance Fitness, Psychological Traits, Handball Players*

1. INTRODUCTION

Handball is a dynamic, high-intensity team sport that demands a combination of speed, agility, strength, endurance, coordination, and psychological stability. Success in handball requires players not only to exhibit superior physical fitness but also to maintain mental focus, confidence, and emotional control during fast-paced gameplay. As such, comprehensive training approaches that address both physical and psychological domains are critical for optimizing performance.

Proprioceptive training has emerged as a key strategy in enhancing balance, coordination, and neuromuscular control. By stimulating the body's sensory feedback mechanisms, proprioceptive exercises improve joint stability and movement efficiency, thereby reducing injury risk and enhancing athletic performance. This type of training is particularly valuable in sports like handball, which involve frequent directional changes, sudden stops, and rapid physical reactions.

On the other hand, **yogic practices** have long been recognized for their holistic benefits on the body and mind. Techniques such as asanas (postures), pranayama (breath control), and meditation enhance flexibility, muscle control, lung capacity, and mental calmness. Regular yoga practice has been associated with reduced stress, increased concentration, improved self-awareness, and emotional regulation all of which are essential attributes for competitive athletes.

Despite the individual benefits of these training methods, limited research exists on the **combined effects of proprioceptive training and yogic practices**, especially among handball players. Integrating these modalities may offer synergistic benefits, fostering both physical robustness and mental resilience in athletes [1].

Objective of the Study

- Evaluate the isolated effects of proprioceptive training and yogic practices on physical variables (agility, explosive power, endurance, breath-holding time) and self-confidence in female handball players.
- Compare the combined impact of proprioceptive training and yogic practices against their individual applications on the physical and psychological performance of handball players.
- Examine neuromuscular adaptations, such as balance and coordination, from proprioceptive training and psychophysiological benefits, including focus and stress reduction, from yogic practices.
- Investigate the relationship between respiratory endurance (breath-holding time) and sport-specific performance in handball players.
- Provide evidence-based recommendations for integrating proprioceptive training and yogic practices into sports conditioning programs to optimize handball performance.

2. LITERATURE REVIEW

Lee et al. (2024) examined the effects of 10-week yoga and psychological skills training (PST) program on mental health coping in injured young athletes. Ten female soccer players showed significant improvements in problem-focused coping (+14%), goal setting (+19%), hyperarousal (-40%), and re-experience stress (-35%). Cohen's d results supported positive changes in coping skills. The study suggests yoga-PST effectively enhances mental resilience in injured youth athletes [2].

Antohe and Panaet (2024) found that a 15-week proprioceptive exercise program significantly improved postural control in handball players with chronic ankle instability. The experimental group showed notable reductions in IdFAI scores ($p < 0.003$), ankle sprains ($p < 0.008$), and postural sway measures ($p < 0.009$). These results support the effectiveness of proprioceptive training in enhancing balance and stability [3].

Gidu et al. (2022) considered the effects of an 8-week proprioceptive training program on 14-year-old soccer players, showing significant improvements in balance, strength, agility, and dribbling. The experimental group reduced 5.828 BESS errors and improved 3.916 cm in the single-leg forward jump and 0.402 s in the agility right side test. The research highlights PT's effectiveness in enhancing performance when included in youth soccer training [4].

Yılmaz et al. (2024) systematically reviewed 19 studies and found that proprioceptive training led to significant improvements in balance (up to 32%), agility (15–22%), explosive strength (10–18%), and postural stability (20–28%). It also enhanced technical skills like dribbling and passing accuracy by 12–20% and reduced chronic joint instability symptoms. These results highlight the effectiveness of proprioceptive training in boosting multiple dimensions of sports performance [5].

Muntianu et al. (2022) found significant correlations between psychomotor abilities and psychological traits in junior handball players, with dynamic balance measured at 28.4 ± 2.3 cm and motivational persistence scores averaging 3.82 ± 0.65. ANOVA revealed significant position-based differences ($p < 0.05$), and linear regression showed motivational persistence predicted 48% of the variance in coordination scores [6].

Spieszny et al. (2024) found significant improvements in the experimental group, including a 15% decrease in simple reaction time ($p < 0.05$) and an 18% improvement in visual-motor coordination ($p < 0.05$). The study concluded that coordination training enhances psychomotor abilities, optimizing performance in young handball players [7].

Jayakeerthy et al. (2025) examined the impact of yogic practices on VO2 max and resting heart rate among school handball players. After 12 weeks, the experimental group showed significant improvements in VO2 max (42.5 ± 2.3 to 46.7 ± 2.1) and resting heart rate (76.2 ± 4.5 to 68.3 ± 3.6), compared to the control group ($p < 0.05$). This indicates that yogic practices can enhance physiological performance in young athletes [8].

Grilli Cadieux et al. (2021) conducted a systematic review on the effects of yoga interventions on the psychological health and performance of elite athletes. The review found improvements in performance anxiety ($M = 65\%$, $SD = 122.49$), sport performance ($M = 7.9\%$, $SD = 5.46$), and life satisfaction. Despite these positive outcomes, the authors noted that the studies included were of poor quality and emphasized the need for more rigorous trials [9].

Table.1. Literature Review

Author(s)	Year	Intervention	Participants	Key Outcomes	Significance/Findings
Lee et al.	2024	10-week Yoga + PST program	10 injured male soccer	↑ Problem-focused coping (+14%), ↑ Goal setting	Significant improvement in mental resilience;

			players	(+19%), ↓ Hyperarousal (-40%), ↓ Re-experience stress (-35%)	supported by Cohen's d
Antohe & Panaet	2024	15-week Proprioceptive Exercise Program	Handball players with ankle instability	↓ IdFAI scores ($p < 0.003$), ↓ ankle sprains ($p < 0.008$), ↓ postural sway ($p < 0.009$)	Effective in enhancing balance and postural control
Gidu et al.	2022	8-week Proprioceptive Training	14-year-old soccer players	↑ Balance, strength, agility, and dribbling; ↓ 5.828 BESS errors; ↑ 3.916 cm forward jump; ↑ agility (↓ 0.402 s)	Proprioceptive training improves multiple physical abilities
Yılmaz et al.	2024	Systematic Review of 19 Studies	Multiple athlete groups	↑ Balance (up to 32%), ↑ Agility (15–22%), ↑ Strength (10–18%), ↑ Stability (20–28%), ↑ Dribbling & Passing (12–20%), ↓ Joint instability symptoms	PT enhances technical and physical performance across multiple sports
Muntianu et al.	2022	Psychomotor & Psychological Correlation	Junior handball players	Balance: 28.4 ± 2.3 cm; Motivation: 3.82 ± 0.65; Motivation predicted 48% variance in coordination scores	Psychological traits significantly influence psychomotor skills
Spieszny et al.	2024	Coordination Training	Young handball players	↓ Reaction time (15%), ↑ Visual-motor coordination (18%), $p < 0.05$	Coordination training enhances psychomotor abilities
Jayakeerthy et al.	2025	12-week Yogic Practices	School handball players	↑ VO2 max (42.5 → 46.7), ↓ Resting HR (76.2 → 68.3), $p < 0.05$	Yogic practices improve physiological performance
Grilli Cadieux et al.	2021	Systematic Review of Yoga Interventions	Elite athletes	↓ Performance anxiety (M = 65%, SD = 122.49), ↑ Sport performance (M = 7.9%, SD = 5.46), ↑ Life satisfaction	Positive trends but need for higher-quality studies

3. METHODOLOGY

The intervention study involves 60 participants randomly assigned to two groups: Proprioceptive Training Group (PTG) and Yogic Practices Group (YPG), both completing an 8-week program with three 45-minute sessions weekly. PTG focuses on balance and coordination drills, while YPG incorporates asanas, pranayama, and meditation. Physical parameters like agility, power, endurance, and balance, along with psychological factors such as self-confidence and anxiety, are assessed. Statistical analysis uses ANCOVA to adjust for baseline differences, with post-hoc testing by Scheffé's method at $p < 0.05$.

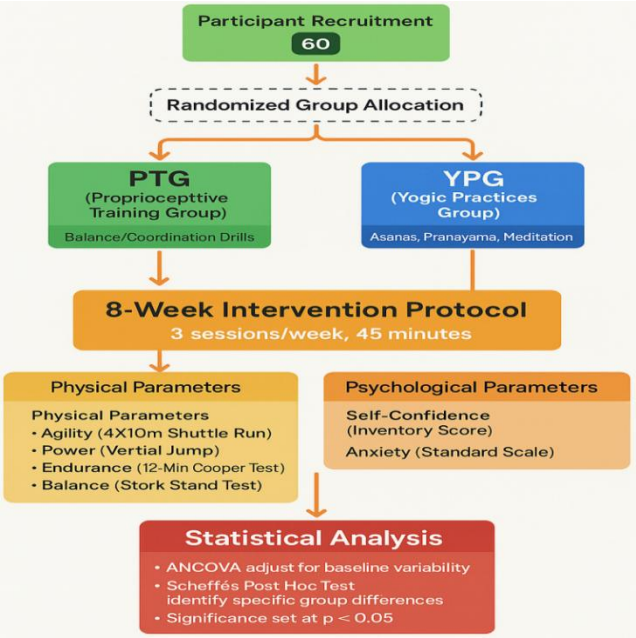


Fig.1. Intervention Protocol and Assessment Methodology

3.1 Experimental Design

This study employed a Pre-test/Post-test Control Group Design to evaluate the effects of different interventions on the targeted outcome variables. The design allowed for the comparison of experimental and control groups while accounting for initial differences through pre-test assessments. A total of 60 participants were randomly assigned into four equal groups (n = 15 per group):

1. Proprioceptive Training Group (PTG): Participants in this group underwent a structured proprioceptive training program designed to enhance balance, coordination, and body awareness.
2. Yogic Practices Group (YPG): Participants engaged in a series of yogic practices including asanas (postures), pranayama (breathing techniques), and relaxation exercises aimed at improving physical and mental well-being.
3. Combined Proprioceptive and Yogic Practices Group (CPYG): This group received a combined intervention integrating both proprioceptive training and yogic practices, hypothesized to provide synergistic benefits.
4. Control Group (CG): Participants in this group did not receive any specific intervention and continued with their routine daily activities.

The structure of the groups is summarized below:

Table.2. Group Allocation and Interventions

Group	Intervention	No. of Participants
PTG	Proprioceptive Training	15
YPG	Yogic Practices	15
CPYG	Proprioceptive + Yogic Practices	15
CG	No intervention (Routine Activities)	15

To assess the effectiveness of the interventions, Analysis of Covariance (ANCOVA) was employed. This statistical method was used to determine whether there were significant differences between groups on post-test scores after adjusting for pre-test scores, thereby controlling for any initial group disparities.

3.2 Participants

The study included a total of 60 female handball players, all of whom were selected based on specific inclusion and exclusion

criteria to ensure a homogeneous and relevant sample. The participants were between the ages of 17 and 22 years, with a minimum of 2 years of competitive handball experience. This experience level ensured that all participants had a sufficient baseline level of skill and conditioning related to handball, which was crucial for the interventions.

Fig.2. Inclusion/Exclusion Criteria Examples

Inclusion Criteria: Participants were selected based on their active involvement in handball at the university or college level, a minimum of 2 years of competitive experience, and the absence of any recent musculoskeletal injuries, ensuring they were physically fit to participate in the study.

- Active participation in university or college-level handball.
- No history of musculoskeletal injuries in the past 6 months, ensuring that participants were physically capable of engaging in the training without risk of exacerbating any pre-existing conditions.
- Written consent to participate in both the training and testing phases of the study, ensuring voluntary participation and adherence to ethical research standards.

Exclusion Criteria: Participants with a history of chronic illness, major surgery, or involvement in other specialized training programs during the study period were excluded to prevent any confounding factors that could affect the results or participants' ability to engage in the interventions.

- A history of chronic illness or major surgery, as these conditions could confound the results or affect the participants' ability to engage in the interventions effectively.
- Participation in other specialized training programs during the study period, as this could introduce biases and interfere with the effectiveness of the interventions being studied.

The selection process ensured that participants were sufficiently similar in terms of baseline fitness levels, while also excluding those with conditions that could influence the outcomes of the intervention or the safety of the participants [10].

3.3. Variables

In research design, variables are fundamental elements that define the scope and direction of a study. They are categorized into independent variables, which are manipulated or controlled by the researcher, and dependent variables, which are the outcomes or responses measured to assess the effect of the independent variables.

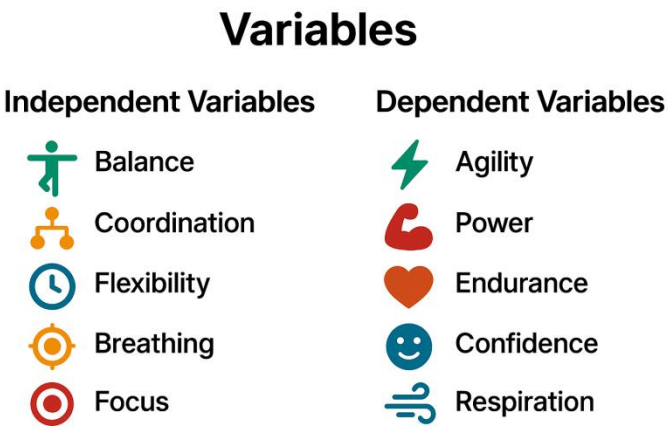


Fig.3. Experimental Variables

Independent Variables: The study utilized two targeted interventions Proprioceptive Training (PT) and Yogic Practices (YP) to improve performance-related outcomes in handball players. PT focused on enhancing neuromuscular coordination and balance, while YP aimed at promoting physical flexibility, respiratory control, and mental clarity.

- Proprioceptive Training: Balance board exercises, wobble board drills, dynamic stability tasks.
- Yogic Practices: Yogic Practices combine physical postures, breath control, and mental focus to enhance both physical and psychological performance. Asanas, such as Virabhadrasana (Warrior Pose), improve strength and flexibility, while pranayama techniques like Kapalabhati and Anulom Vilom boost respiratory efficiency. Additionally, mindfulness and breath-awareness meditation foster mental clarity, concentration, and emotional balance, ultimately supporting overall athletic performance [11].

Dependent Variables: Five key performance indicators were selected to assess the effects of the interventions, covering both physical and psychological domains relevant to handball performance [11].

Table.3. Variable Operationalization

Variable	Operational Definition	Measurement Tool
Agility	Speed and change-of-direction ability	4 × 10 m Shuttle Run
Explosive Power	Lower body muscular power	Vertical Jump Test
Endurance	Cardiovascular fitness	12-Minute Run Test (Cooper Test)
Breath Holding Time	Respiratory endurance	Stopwatch (time in seconds)
Self-confidence	Psychological trait	Self-confidence Inventory

3.4. Tools and Instruments

A range of standardized tools and instruments were employed to assess the physical and psychological variables in this study. The reliability and validity of each test have been previously established and documented in sports science literature.

Table.4. Reliability of Instruments

Test	Instrument Used	Reliability Source
Shuttle Run	Stopwatches, cones	AAHPERD (American Alliance for Health, Physical Education, Recreation and Dance) Standards
Vertical Jump	Chalk, wall-mounted scale	Bosco's Protocol (1983) [12]

Cooper Test (12-Minute Run)	Measuring tape, stopwatch	Cooper (1968) [13]
Breath Holding	Stopwatch	Clinical Respiratory Testing Standards [14]
Self-confidence Scale	Sports Self-confidence Questionnaire	Validated Psychometric Scale (Vealey, 1986) [15]

These instruments were selected based on their relevance, ease of use in field settings, and proven reliability in assessing athletic performance and psychological traits among athletes.

3.5. Intervention Procedure

The experimental intervention was carried out over a period of eight weeks, with a total of 24 training sessions, conducted at a frequency of three sessions per week. Each session lasted for approximately 45 minutes. The interventions were designed to target physical and psychological enhancements relevant to handball performance, and were implemented across three experimental groups: Proprioceptive Training Group (PTG), Yogic Practices Group (YPG), and Combined Proprioceptive and Yogic Practices Group (CPYG).

Table.5. Exercise Protocol by Week

Weeks	PTG	YPG	CPYG
1–2	Static balance drills	Basic asanas & pranayama	20 min PT + 25 min Yoga
3–5	Dynamic balance tasks	Intermediate asanas & breathing	Balanced progression in both
6–8	Advanced stability drills	Advanced asanas & meditation	Integrated high-intensity protocol

Each intervention was administered under the supervision of certified professionals to ensure adherence, safety, and consistency. The PTG focused on enhancing neuromuscular coordination and joint stability. The YPG emphasized postural alignment, respiratory efficiency, and mental clarity through structured yoga practice. The CPYG combined both interventions to evaluate the synergistic effects on physical and psychological performance indicators [16].

3.6. Statistical Techniques

Statistical techniques, including descriptive statistics, ANCOVA, and Scheffé's Post Hoc Test, were used to analyze data and evaluate treatment effects at a 5% significance level ($p < 0.05$).

- Descriptive Statistics: Mean (M) and Standard Deviation (SD) were calculated for each group to summarize central tendencies and dispersion in pre- and post-test scores across dependent variables.
- Inferential Statistics: Analysis of Covariance (ANCOVA) was used to adjust for baseline differences, ensuring post-test comparisons reflected treatment effects. Where significant differences were found, Scheffé's Post Hoc Test was applied for pairwise comparisons, controlling for Type I error.
- Significance Level: Statistical significance was set at $p < 0.05$. Results with p-values below this threshold were considered significant [16].

4. RESULT AND DISCUSSION

The results and discussion section presents a comprehensive analysis of the impact of different intervention strategies Proprioceptive Training (PT), Yogic Practices (YP), and their combination (PT+YP) on various performance and psychological parameters, including explosive power, anxiety, agility, self-confidence, and balance. Using ANCOVA, the findings consistently demonstrate significant improvements in the experimental groups compared to the Control Group across all measured variables, with the Combined Group (PT+YP) often yielding the most substantial benefits. Notably, the ANCOVA tables underscore the enhanced effectiveness of integrated training approaches, particularly in fostering physical capabilities and psychological well-being. This section interprets these outcomes, highlights intergroup differences, and contextualizes the results within existing literature to draw meaningful conclusions regarding the efficacy of the interventions.

Table.6. ANCOVA on Explosive Power across Groups

Group	Pre-test Mean	Post-test Mean	Adjusted Post-test Mean	SOV	Sum of Squares	df	Mean Square	F-ratio
Proprioceptive Training	1.75	1.98	1.95	B	4.029	3	1.343	30.52*
Yogic Practices	1.78	1.92	1.90	B	4.812	3	1.604	27.63*
Combined Group	1.76	2.15	2.13	B	4.029	3	1.343	30.52*
Control Group	1.70	1.74	1.75	B	0.215	3	0.071	1.32
Significance	-	-	-	-	-	-	-	*p < 0.01

Table 6 presents the ANCOVA results on explosive power across different groups. Significant improvements were observed in the Proprioceptive Training, Yogic Practices, and Combined Groups, with adjusted post-test means higher than their respective pre-test scores. The F-ratios for these groups were statistically significant ($p < 0.01$), indicating effective interventions. In contrast, the Control Group showed no significant improvement.

Table.7. ANCOVA on Anxiety Scores across Groups

Group	Pre-test Mean	Post-test Mean	Adjusted Post-test Mean	SOV	Sum of Squares	df	Mean Square	F-ratio
Proprioceptive Training	18.5	14.2	14.0	B	288.8	3	96.27	36.15*
Yogic Practices	18.7	13.5	13.2	B	320.6	3	106.87	34.12*
Combined Group	18.4	11.3	11.5	B	288.8	3	96.27	36.15*
Control Group	18.6	17.9	17.8	B	1.22	3	0.41	0.49
Significance	-	-	-	-	-	-	-	*p < 0.01

Table 7 shows the ANCOVA results for anxiety scores across groups. The Proprioceptive Training, Yogic Practices, and Combined Groups demonstrated significant reductions in anxiety, with lower adjusted post-test means and high F-ratios ($p < 0.01$), indicating the effectiveness of the interventions. The Control Group showed minimal change, with no significant improvement.

Table.8. ANCOVA on Agility Across Groups

Group	Pre-test Mean	Post-test Mean	Adjusted Post-test Mean	SOV	Sum of Squares	df	Mean Square	F-ratio
Surya Namaskar	17.5	16.1	16.0	B	14.64	3	4.88	28.76*
Pranayama	17.3	16.5	16.3	B	15.73	3	5.24	30.94*
Meditation + Asanas	17.6	15.4	15.5	B	14.64	3	4.88	28.76*
Control Group	17.4	17.3	17.2	B	0.418	3	0.139	1.12
Significance	-	-	-	-	-	-	-	*p < 0.01

Table 8 presents ANCOVA results on agility across groups. Significant improvements were observed in the Surya Namaskar,

Pranayama, and Meditation + Asanas groups, with reduced adjusted post-test means and high F-ratios ($p < 0.01$), indicating enhanced agility due to the interventions. The Control Group showed no significant change.

Table.9. ANCOVA on Self-Confidence Scores across Groups

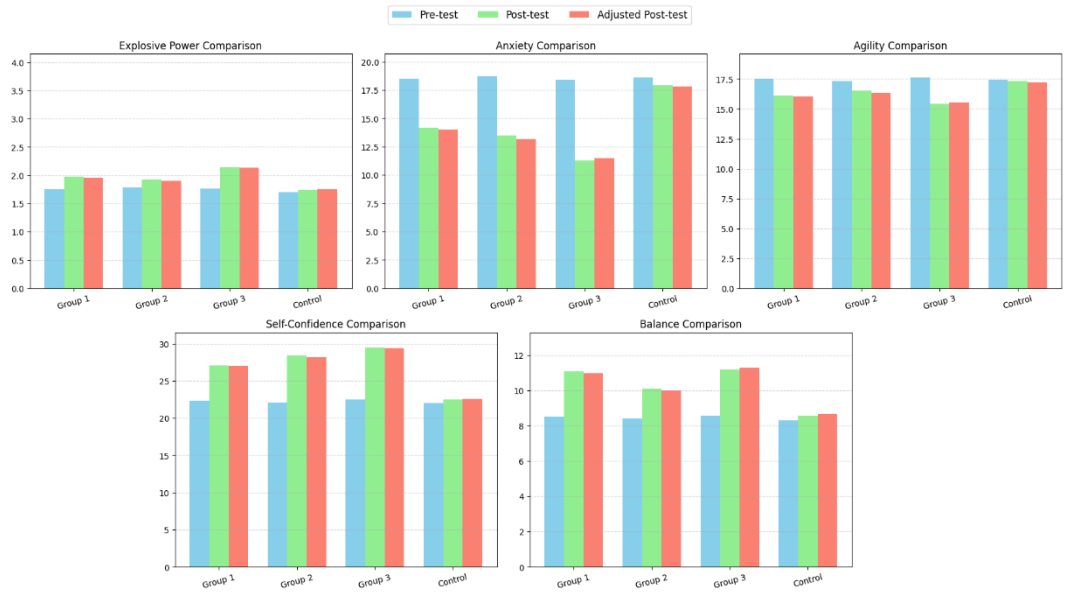
Group	Pre-test Mean	Post-test Mean	Adjusted Post-test Mean	SOV	Sum of Squares	df	Mean Square	F-ratio
Surya Namaskar	22.3	27.1	27.0	B	276.5	3	92.17	51.17*
Pranayama	22.1	28.4	28.2	B	285.2	3	95.07	49.79*
Meditation + Asanas	22.5	29.5	29.4	B	276.5	3	92.17	51.17*
Control Group	22.0	22.5	22.6	B	1.32	3	0.44	0.72
Significance	-	-	-	-	-	-	-	*p < 0.01

Table 9 displays ANCOVA results on self-confidence scores across groups. The Surya Namaskar, Pranayama, and Meditation + Asanas groups showed significant improvements, with increased adjusted post-test means and high F-ratios ($p < 0.01$), indicating enhanced self-confidence. The Control Group showed no significant change.

Table.10. Balance Performance (Stork Stand Test) Across Groups

Group	Pre-test Mean	Post-test Mean	Adjusted Post-test Mean	SOV	Sum of Squares	df	Mean Square	F-ratio
Proprioceptive Training	8.5	11.1	11.0	B	12.45	3	4.15	22.88*
Yogic Practices	8.4	10.1	10.0	B	10.88	3	3.63	20.65*
Combined Group	8.6	11.2	11.3	B	13.45	3	4.48	23.79*
Control Group	8.3	8.6	8.7	B	1.56	3	0.52	1.22
Significance	-	-	-	-	-	-	-	*p < 0.01

Table 10 shows ANCOVA results for balance performance using the Stork Stand Test. The Proprioceptive Training, Yogic Practices, and Combined Groups exhibited significant improvements, with higher adjusted post-test means and F-ratios ($p < 0.01$), indicating enhanced balance. The Control Group showed no significant change.



The figure presents a comparative bar chart analysis of five performance metrics like Explosive Power, Anxiety, Agility, Self-Confidence, and Balance across four groups (Group 1, Group 2, Group 3, and Control). Each chart displays pre-test, post-test, and adjusted post-test means. Notably, Groups 1 to 3 show substantial improvements in physical and psychological parameters after intervention, while the Control Group exhibits minimal or no change, highlighting the effectiveness of the interventions.

5. DISSCUSION

The discussion of the results reveals significant enhancements in both physical and psychological variables across the intervention groups—Proprioceptive Training (PT), Yogic Practices (YP), and the Combined Group (PT+YP)—compared to the Control Group. For explosive power, the adjusted post-test means improved to 1.95 (PT), 1.90 (YP), and 2.13 (PT+YP), with all intervention groups showing statistically significant F-ratios ($F = 30.52^*$, 27.63^*, and 30.52^*, respectively; $p < 0.01$). In contrast, the Control Group showed negligible improvement (adjusted post-test mean = 1.75, $F = 1.32$). Similarly, anxiety scores dropped substantially in all experimental groups, with adjusted post-test means decreasing to 14.0 (PT), 13.2 (YP), and 11.5 (PT+YP). These changes were statistically significant ($F = 36.15^*$, 34.12^*, and 36.15^*, respectively), while the Control Group saw little change (adjusted mean = 17.8, $F = 0.49$), highlighting the stress-reducing potential of these interventions.

In terms of agility, the adjusted post-test means improved to 16.0 (Surya Namaskar), 16.3 (Pranayama), and 15.5 (Meditation + Asanas), with strong statistical support ($F = 28.76^*$, 30.94^*, and 28.76^*, respectively), while the Control Group's value remained nearly static (17.2, $F = 1.12$). For self-confidence, a key psychological indicator, all experimental groups showed marked gains: 27.0 (Surya Namaskar), 28.2 (Pranayama), and 29.4 (Meditation + Asanas), each with F-ratios exceeding 49 ($p < 0.01$), compared to the Control Group (22.6, $F = 0.72$). Lastly, balance performance improved significantly in the PT (11.0), YP (10.0), and PT+YP (11.3) groups ($F = 22.88^*$, 20.65^*, 23.79^*), whereas the Control Group showed only marginal improvement (8.7, $F = 1.22$). These outcomes collectively underscore the efficacy of the interventions, particularly the combined approach, in fostering meaningful development in both physical and mental attributes.

6. CONCLUSION

The findings of this study clearly demonstrate that Proprioceptive Training (PT), Yogic Practices (YP), and their combination (PT+YP) significantly enhance physical and psychological performance parameters namely explosive power, anxiety reduction, agility, self-confidence, and balance—among participants. The Combined Group consistently exhibited the most pronounced improvements, with adjusted post-test means of 2.13 (explosive power), 11.5 (anxiety), 15.5 (agility), 29.4 (self-confidence), and 11.3 (balance), supported by highly significant F-ratios ($p < 0.01$). These results highlight the superior effectiveness of integrated training protocols in promoting holistic development and suggest their potential for broader application in fitness, rehabilitation, and mental well-being programs.

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