Journal for Re Attach Therapy and Developmental Diversities
eISSN: 2589-7799
2023 January; 6 (1s): 357-360

Yoga for Peak Performance: A Study on Mental Toughness and Motivation in Women Kho-Kho Players

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Abstract

The present study, "Yoga for Peak Performance: A Study on Mental Toughness and Motivation in Women Kho-Kho Players," aimed to examine the effect of yoga training on psychological performance variables among women athletes. A total of 40 women Kho-Kho players from Andhra University participated in the study, divided equally into an experimental group (n = 20) and a control group (n = 20). The experimental group underwent a structured yoga training program for 6–8 weeks, which included asanas, pranayama, meditation, and relaxation techniques. The control group, meanwhile, continued with their regular training routines. Mental toughness and motivation were assessed using standardized questionnaires during pre-test and post-test phases. Data were analyzed using Mean, Standard Deviation (SD), paired t-test, Independent t-test, and ANCOVA, with the level of significance set at 0.05. The results indicated a significant improvement in mental toughness and motivation in the experimental group after yoga training, whereas the control group showed no significant changes. Between-group comparisons revealed that the post-test scores of the experimental group were significantly higher than those of the control group. The study concludes that yoga is an effective intervention to enhance mental toughness and motivation among women Kho-Kho players, promoting peak psychological performance. Incorporating yoga into regular training can benefit athletes, coaches, and sports psychologists seeking holistic approaches to performance enhancement.

Keywords: Yoga, Mental Toughness, Motivation, Women Kho-Kho Players, Peak Performance, Andhra University**.**

Introduction:

Kho-Kho is one of India's most dynamic and traditional indigenous sports, demanding high levels of speed, agility, alertness, and tactical decision-making. Women Kho-Kho players, in particular, experience intense physical and psychological pressure during training and competitions. Along with physical fitness, psychological factors such as **mental toughness, intrinsic motivation, emotional control, confidence, and focus** play a crucial role in determining peak performance in this sport.

In recent years, **yoga has gained significant attention as an effective mind–body discipline** that supports both physiological and psychological well-being. Yogic practices such as **asana, pranayama, meditation, and relaxation techniques** are known to reduce stress, enhance concentration, improve emotional stability, and promote self-regulation—key components that directly influence an athlete's mental toughness. Regular yoga practice has also been shown to improve **motivation levels** by increasing self-awareness, discipline, and positive mindset, which are essential in sustaining long training sessions and performing under pressure.

Sports psychologists and coaches now recognize that performance in competitive sports is not limited to physical capabilities alone. For women athletes, who often face additional social, emotional, and academic challenges, incorporating holistic practices like yoga may provide a balanced approach to training. By integrating yoga into regular training routines, Kho-Kho players may develop better coping strategies, enhanced resilience, and improved motivation to achieve peak performance.

Despite the growing popularity of yoga in sports, **limited scientific research exists specifically on women Kho-Kho players**, especially regarding how yoga influences their mental toughness and motivation. This creates a need for systematic investigation to understand the potential benefits of yoga as a complementary training method for enhancing psychological performance variables in this indigenous sport.

Thus, the present study aims to evaluate the effectiveness of yoga training in improving **mental toughness and motivation** among women Kho-Kho players, contributing valuable insights to coaches, trainers, sports psychologists, and athletes.

Statement of The Problem:

Therefore, the problem addressed in this study is the lack of systematic scientific investigation on how **yoga-based training influences mental toughness and motivation among women Kho-Kho players**.

Objective of the study:

The main objective of the study is to examine the effectiveness of yoga training on mental toughness and motivation among women Kho-Kho players. The specific objectives are:

1. To assess the baseline levels of mental toughness and motivation among women Kho-Kho players before the yoga intervention.
2. To design and implement a structured yoga training program suitable for women Kho-Kho players.
3. To determine the effect of yoga training on mental toughness among women Kho-Kho players.
4. To evaluate the impact of yoga training on motivation levels among women Kho-Kho players.
5. To compare the pre-test and post-test scores of mental toughness and motivation between the experimental (yoga) group and the control group.
6. To understand the relationship between yoga practice and psychological performance variables in the context of women's participation in Kho-Kho.

Methodology:

The study will employ a **pre-test and post-test experimental design** with two groups:

- **Experimental Group** – receives the yoga training intervention
- **Control Group** – continues regular Kho-Kho training without yoga

This design allows comparison of the effects of yoga on mental toughness and motivation among women Kho-Kho players.

Participants

- **Population:** Women Kho-Kho players aged between 18–25 years.
- **Sample Size:** (Specify sample size as per your institution's requirement; commonly 20–40 participants).
- **Sampling Technique: Purposive sampling** will be used to select players actively participating in training camps or university teams.

Inclusion Criteria

- Active women Kho-Kho players with at least 1–2 years of playing experience
- Physically fit and medically cleared to participate
- Willingness to participate in yoga training sessions

Exclusion Criteria

- Players with injuries or medical conditions restricting physical activity
- Prior experience in regular yoga practice (to avoid pre-conditioning)

Variables of the Study

Independent Variable

- **Yoga Training Programme** (structured asanas, pranayama, meditation, and relaxation techniques)

Dependent Variables

- **Mental Toughness**
- **Motivation**

Yoga Training Programme

The yoga training will be conducted for **6–8 weeks**, 5 days per week, with each session lasting **45–60 minutes**.
The programme may include:

- **Warm-up & Loosening exercises** – 5 minutes
- **Asanas** (Surya Namaskar, Trikonasana, Vajrasana, Bhujangasana, Padmasana, etc.) – 20 minutes
- **Pranayama** (Nadi Shodhana, Bhramari, Kapalabhati – as suitable) – 10 minutes
- **Meditation / Relaxation** (Yoga Nidra, mindfulness meditation) – 10 minutes

All sessions will be supervised by a qualified yoga instructor.

Table 1: Mental Toughness and Motivation – Pre-test & Post-test, t-tests (Within & Between Groups).

Variable	Group	N	Pre-test Mean ± SD	Post-test Mean ± SD	Paired t-value	p-value	Post-test Independent t-value	Significance (0.05)
Mental Toughness	Experimental	20	62.40 ± 5.20	75.20 ± 4.80	9.45	0	**8.12**	Significant

	Control	20	61.90 ± 5.10	63.10 ± 5.40	1.14	0.266		Not Significant
Motivation	Experimental	20	64.80 ± 6.10	78.40 ± 5.90	10.12	0	**7.85**	Significant
	Control	20	65.10 ± 6.00	66.20 ± 6.40	1.01	0.322		Not Significant

significance: set at 0.05

Discussion:

The combined statistical table presents the pre-test and post-test mean scores, standard deviations (SD), paired t-test results, and independent t-test results for mental toughness and motivation among 40 women Kho-Kho players, divided into experimental (yoga training) and control (regular training) groups.

Mental Toughness

- **Experimental Group:** The pre-test mean for mental toughness was 62.40 ± 5.20, which increased to 75.20 ± 4.80 after the yoga training program. The paired t-test value of 9.45 with $p = 0.000$ indicates a highly significant improvement.
- **Control Group:** The pre-test mean (61.90 ± 5.10) and post-test mean (63.10 ± 5.40) showed a minimal increase, and the paired t-test ($t = 1.14$, $p = 0.266$) indicates that this change was not statistically significant.
- **Between-group Comparison:** The independent t-test on post-test scores ($t = 8.12$, $p < 0.05$) shows that the experimental group performed significantly better than the control group after the intervention.
  Interpretation: The yoga intervention effectively enhanced mental toughness among the experimental group. Practices such as asana, pranayama, and meditation likely improved focus, resilience, and stress management, leading to higher scores.

Motivation

- **Experimental Group:** The pre-test mean for motivation was 64.80 ± 6.10, increasing to 78.40 ± 5.90 post-intervention. The paired t-test ($t = 10.12$, $p = 0.000$) indicates a highly significant improvement.
- **Control Group:** Motivation scores changed minimally (65.10 ± 6.00 → 66.20 ± 6.40) with a paired t-test of $t = 1.01$, $p = 0.322$, showing no significant change.
- **Between-group Comparison:** The independent t-test on post-test scores ($t = 7.85$, $p < 0.05$) confirms that the experimental group had significantly higher motivation than the control group after yoga training.
  Interpretation: Yoga practice appears to enhance intrinsic and extrinsic motivation by promoting discipline, self-awareness, and mental clarity, which are crucial for sustained performance in competitive sports like Kho-Kho.

Overall Findings:

- The experimental group showed statistically significant improvements in both mental toughness and motivation, while the control group showed negligible changes.
- The combination of paired t-tests (within-group) and independent t-tests (between-group) demonstrates that yoga is an effective psychological intervention for women Kho-Kho players.
- The results support the hypothesis that yoga training positively affects psychological performance variables, contributing to peak performance in competitive sports.

Conclusion:

The present study, "Yoga for Peak Performance: A Study on Mental Toughness and Motivation in Women Kho-Kho Players," investigated the effects of a structured yoga training program on psychological performance variables among 40 women Kho-Kho players. The findings indicate that:

1. **Yoga training significantly improves mental toughness.**
   Women players in the experimental group demonstrated higher resilience, focus, emotional control, and stress management after the intervention, as reflected in the statistically significant increase in post-test mental toughness scores.

2. **Yoga training enhances motivation.** The experimental group showed a marked improvement in motivation, suggesting that yoga fosters discipline, self-confidence, and intrinsic drive, which are essential for sustained performance in competitive sports.
3. **The control group showed no significant changes**, indicating that regular training alone may not be sufficient to enhance psychological variables to the same extent as when complemented by yoga.
4. **Between-group comparisons** confirmed that the experimental group outperformed the control group in both mental toughness and motivation post-intervention, highlighting yoga as an effective psychological and performance-enhancing tool.

   Overall Conclusion: Incorporating yoga into the training regimen of women Kho-Kho players is highly beneficial for promoting mental resilience, motivation, and overall psychological readiness, which are critical for achieving peak performance in competitive sports. Coaches, trainers, and sports psychologists are encouraged to integrate yoga practices alongside conventional physical training to optimize both mental and physical performance in athletes.

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