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## Impact of Bulgarian bag training on selected skill related variables in basketball players

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### Abstract

This study explores the impact of Bulgarian Bag training on specific skill-related variables, namely passing and dribbling, within the context of basketball players. The research involved the random selection of 30 participants from the Chennai district in Tamil Nadu, falling within the age range of 17 to 25 years. The participants were divided into experimental and control groups, each consisting of 15 individuals. The experimental group underwent a structured Bulgarian Bag training program, while the control group adhered to their regular basketball training routine. The experimental group engaged in their training program three days a week for a duration of six weeks, with each session lasting 60 minutes. In contrast, the control group did not participate in any specialized training program beyond their daily physical activities. Both groups were assessed on the selected variables before and immediately after the six-week training period. Statistical analysis, utilizing analysis of covariance (ANCOVA), was conducted to determine any significant differences. A confidence level of 0.05 was established to test the significance of the observed differences. This research contributes to the understanding of the potential benefits of Bulgarian Bag training in enhancing specific basketball skills, providing valuable insights for coaches, athletes, and sports professionals. The results, when analyzed, aim to offer evidence-based guidance for optimizing training protocols, ultimately influencing performance improvement in basketball players.

**Keywords:** Bulgarian bag training, dribbling, passing, training programme

### Introduction

Bulgarian Bag training has emerged as a distinctive and innovative approach in the realm of sports and fitness, offering a dynamic and versatile workout experience (Bogdanova, & Horbel, 2015) <sup>[1]</sup>. Originating from the wrestling culture of Bulgaria, this training methodology has found its way into various athletic disciplines, including basketball (Korobeynikov, *et al.*, 2017) <sup>[4]</sup>. The unique design of the Bulgarian Bag, featuring crescent-shaped handles and a sand-filled interior, enables a wide array of functional movements, making it a valuable tool for enhancing strength, flexibility, and overall athletic performance.

In the context of basketball, where agility, strength, and precision are paramount, the integration of Bulgarian Bag training presents an intriguing avenue for skill development (Laucella, 2004) <sup>[5]</sup>. This study delves into the impact of Bulgarian Bag training on selected skill-related variables, with a specific focus on passing and dribbling among basketball players. As coaches and athletes seek innovative ways to optimize training regimens, the Bulgarian Bag stands out as a potential catalyst for refining fundamental skills and elevating overall performance on the court (Merchant, 2015) <sup>[6]</sup>. The research, conducted over a six-week period, involves a comparative analysis between a group undergoing structured Bulgarian Bag training and a control group adhering to traditional basketball training routines (Dowse, 2015) <sup>[2]</sup>. By exploring the effects of this unique training modality on passing and dribbling, this study aims to contribute evidence-based insights that can inform training strategies, providing a deeper understanding of the potential benefits the Bulgarian Bag may offer to basketball players. As the sporting landscape continues to evolve, the incorporation of novel training tools like the Bulgarian Bag represents a proactive step toward optimizing athletic development and performance (Khanna, 2021) <sup>[3]</sup>.

### Methodology

The research involved the random selection of 30 participants from the Chennai district in Tamil Nadu, falling within the age range of 17 to 25 years.

The participants were divided into experimental and control groups, each consisting of 15 individuals. The experimental group underwent a structured Bulgarian Bag training program, while the control group adhered to their regular basketball training routine.

The duration of training was planned 45 min to 1 hour that is from 6.30 to 7.30 a.m., for three days per week for 6 weeks. The training on each day begins with, warm-up followed by prescribed training packages and ended with warm-down process.

**Training programme**

**Table 1:** Bulgarian bag training Programme

S. No.	Weeks	Phases	Programmes
1	Week 1 to 2	Foundation Building	Swings: 3 sets x 15 reps Cleans: 3 sets x 12 reps Squats: 3 sets x 10 reps Push-ups: 3 sets x 12 reps Planks: 3 sets x 30 seconds Russian twists: 3 sets x 15 reps Basketball Skill Training
2	Week 3 to 4	Intensification	Emphasize explosive movements: 3 sets x 12 reps Pull-ups: 3 sets x 8 reps Shoulder press: 3 sets x 10 reps Basketball Skill Training
3	Week 5 to 6	Peak Performance	Lunges: 3 sets x 12 reps Dips: 3 sets x 10 reps Pyramid sprints: 1-2-3-4-5-4-3-2-1 sets with rest intervals Basketball Skill Training

Adjust the load and intensity based on the athletes' response to the program, and encourage communication about any discomfort or fatigue.

The experimental group engaged in their training program three days a week for a duration of six weeks, with each session lasting 60 minutes. In contrast, the control group did not participate in any specialized training program beyond their daily physical activities. Both groups were assessed on the selected variables before and immediately after the six-week training period. Statistical analysis, utilizing analysis of

covariance (ANCOVA), was conducted to determine any significant differences. A confidence level of 0.05 was established to test the significance of the observed differences.

**Results**

**Table 2:** ANCOVA for pre and post data on dribbling (Scores in Seconds)

Test	EG	CG	SV	SS	DF	MS	F
Pre mean	14.65	14.49	B	0.24	2	0.12	2.19
			W	3.12	57	0.05	
Post mean	12.88	14.46	B	37.73	2	18.86	134.13*
			W	8.02	57	0.14	
Adjusted Mean	12.88	14.46	B	35.82	2	17.91	125.16*
			W	8.01	56	0.14	

The Pre-Test: The calculated “F” value was 2.19 correspondingly lower and indicates no significant changes. The post-test the obtained “F” value was 134.13 correspondingly higher than the required value and affirmed

significant changes. The adjusted post-test: The obtained “F” value was 125.16 correspondingly higher than the required value and affirmed significant changes.

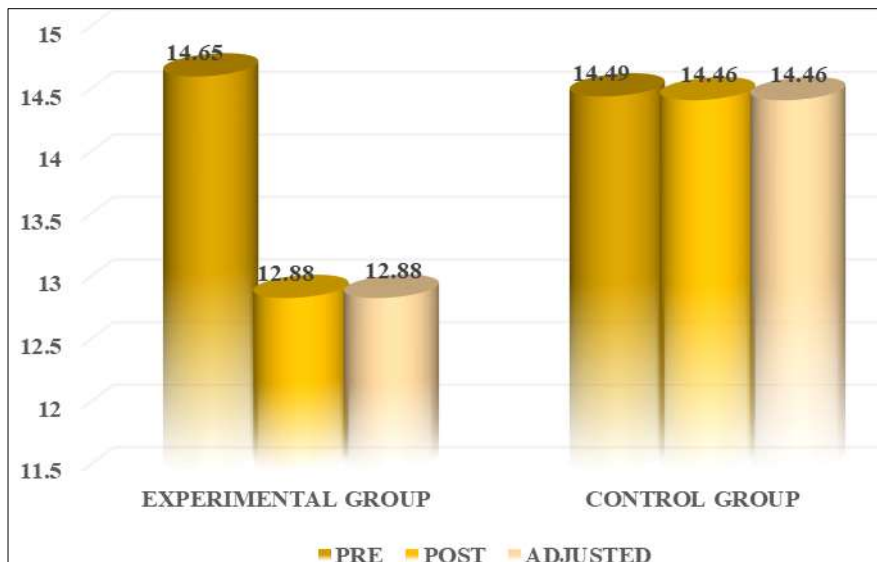


Figure 1: Test differences on dribbling

Table 3: Ancova for pre and post data on passing (Scores in Points)

Test	EG	CG	SV	SS	df	MS	F
Pre mean	7.20	7.05	B	0.23	2	0.117	0.23
			W	28.70	57	0.50	
Post mean	10.15	7.35	B	108.40	2	54.20	107.09*
			W	28.85	57	0.51	
Adjusted Mean	10.14	7.36	B	106.57	2	53.28	104.81*
			W	28.47	56	0.51	

The Pre-Test: The calculated “F” value was 0.23 correspondingly lower and indicates no significant changes. The post-test the obtained “F” value was 107.09 correspondingly higher than the required value and affirmed significant changes. The adjusted post-test: The obtained “F” value was 104.81 correspondingly higher than the required value and affirmed significant changes.

notable increases in mean scores and "F" values in the post-test and adjusted post-test phases. This indicates the practical significance of incorporating Bulgarian Bag training in the development of passing abilities among basketball players. Similarly, in the realm of dribbling, the intervention showcased its effectiveness through a marked reduction in dribbling time. The significant "F" values in the post-test and adjusted post-test further accentuate the tangible impact of Bulgarian Bag training on improving dribbling skills, reaffirming its relevance in basketball skill development. These findings have practical implications for coaches and practitioners engaged in basketball training programs. The interventions, as demonstrated through robust statistical outcomes, offer a targeted and effective approach for enhancing key skills in basketball players. The study contributes to the broader understanding of the role of specific training modalities, such as Bulgarian Bag training, in skill development within the context of basketball. In light of these results, coaches can consider integrating Bulgarian Bag training into their regimens, tailored to the unique demands of passing and dribbling in basketball. The study serves as a foundation for further research and exploration into the nuanced effects of specific training interventions on various facets of athletic performance. The findings from this study contribute to the existing body of literature on interventions aimed at enhancing playing performance. Previous studies have also demonstrated the positive effects of 6 weeks of kettle bell intervention programme improves the strength and endurance of volleyball players (Parasuraman & Mahadevan, 2018), Radhakrishnan (2022), (Parasuraman, 2022) [8, 9] The current study adds to this knowledge by showcasing how a targeted intervention can lead to significant improvements in these key aspects of physical fitness.

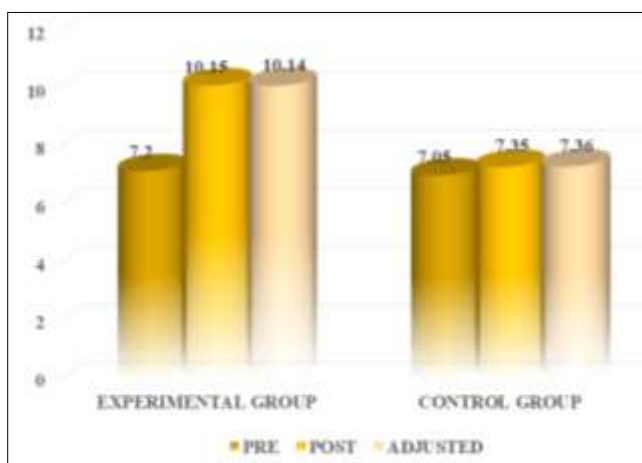


Fig 2: Test differences on passing

**Discussion**

The study delving into the impact of Bulgarian Bag training on selected skill-related variables, specifically passing and dribbling, in basketball players has yielded valuable insights. The ANCOVA results presented in Tables II and III underscore the efficacy of the intervention in fostering significant improvements in both passing and dribbling skills. For passing performance, the intervention led to a substantial and statistically significant enhancement, as evidenced by the

## Conclusion

The impact of Bulgarian Bag training on selected skill-related variables, passing and dribbling, showcases its potential as a valuable addition to basketball training programs. The study contributes valuable insights to the field, paving the way for more informed and targeted approaches to skill development in basketball players.

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