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Combined Impacts of Loop Band Training and Specific Drills on Selected Strength Parameters among Badminton Players

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Abstract:

Objective: The purpose of this study was to investigate the combined impacts of loop band training and specific drills on selected strength parameters among badminton players.

Design of study: Experimental investigation.

Setting: Students studying Physical Education at Bharathiar University, Coimbatore, Tamil Nadu.

Participation: Thirty (N=30) intercollegiate badminton players, ages 21–25, were divided into two groups at random: 15 for loop band training and particular drills and 15 for the control group.For six weeks, the loop band training and specific drills were conducted, while the control group carried on with their usual schedule.

Main Outcomes Measures: Using a loop band and specific drills, the participants trained for six weeks, focusing on three strength parameters: lower back strength, lower body strength endurance and leg strength.

Results: Based on the loop band's limits, the results assume that intercollegiate badminton players' leg strength, lower body strength endurance and lower back strength have increased significantly.

Conclusion: For intercollegiate badminton players looking to increase their strength parameters, particularly in areas like leg strength, lower body strength endurance and lower back strength, a 6-week loop band program can be a useful and advantageous strategy.

KEYWORDS: Badminton players, endurance, lower back, lower body, endurence, loop band and strength metrics.

INTRODUCTION

Combining resistance bands to do exercises that target particular muscle areas is known as loop band training. Athletes can increase their muscular strength, endurance and explosiveness by using loop bands in their training sessions. On the badminton court these advancements result in stronger shots, faster movements and more stability.

METHODOLOGY

Thirty (N-30) men were chosen from Bharathiar University's Physical Education department in Coimbatore, Tamil Nadu. The participants, who were split into two groups of 15 each—the Loop band group and certain drills and the control group—ranged in age from 21 to 25. While the control group received no more training beyond their regular routine, the loop band group was exposed to loop band training and particular drills. Leg strength, lower back strength and lower body strength endurance. Each 40–50 minute workout throughout the 6-week loop band training phase was conducted. A dependent t-test was used to statistically analyze the data gathered from the two groups prior to and following the loop band training and specific drills session in order to identify any noteworthy improvements. The test was set at the 0.05 level of significance in every instance.

Criterion Measures: It is evaluate selected strength parameters where chosen as the criterion measures to this study for testing.

TABLE-I

CRITERION MEASURES

S.No	Criterion variables	Test items	Unit of measurements
1.	Leg Strength	Wall squat test	In seconds
2.	Lower body Strength endurance	Plank fitness test	In seconds
3.	Lower back Strength	Back extensions test	counts

TABLE -II

SIGNIFICANT DIFFERENCE OF PRE-TEST AND POST-TEST WITHIN THE AGE GROUP OF 18-22 YEARS MALE ON STRENGTH PARAMETERS

Parameters	test	Pre test	Post test	SD	df	t
Leg Strength	Experimental group	64.60	67.60	0.92	14	12.55*
	Control group	63.06	63.53	0.91		1.97
Lower Body Strength Endurance	Experimental group	2.93	3.39	0.54	14	3.28*
	Control group	2.92	2.95	0.14		0.89
Lower Back Strength	Experimental group	12.20	14.06	0.51	14	14*
	Control group	12.26	12.46	0.41		1.87

(Significance at 0.05 level)

The t-value and mean standard deviation for each outcome measure are shown in Table II. The results indicate that had pre-test mean values of experimental group were 64.60, 2.93 & 12.20 and control group were 63.06, 2.92 and 12.26.The post-test mean values of experimental group were 67.60, 3.39 & 14.06 and control group were 63.53, 2.95 & 12.46 correspondingly. The dependent t-test values for the loop band and specific drills group were as follows: leg strength (t=12.55), lower body strength endurance (t=3.28) and lower back strength (t=14). At the 0.05 level of confidence, a significant difference with degrees of freedom 10 requires a table value of 2.14. Both the Loop band group and the particular drills training group had "t" test values that were greater than the table value. The findings unequivocally showed that the combined effects of loop band training and specific drills among badminton players enhanced the training group's leg strength, lower body strength endurance and lower back strength.

FIGURE-I

BAR DIAGRAM SHOWING THE MEAN VALUE LEG STRENGTH AMONG BADMINTON PLAYERS IN EXPERIMENTAL AND CONTROL GROUP

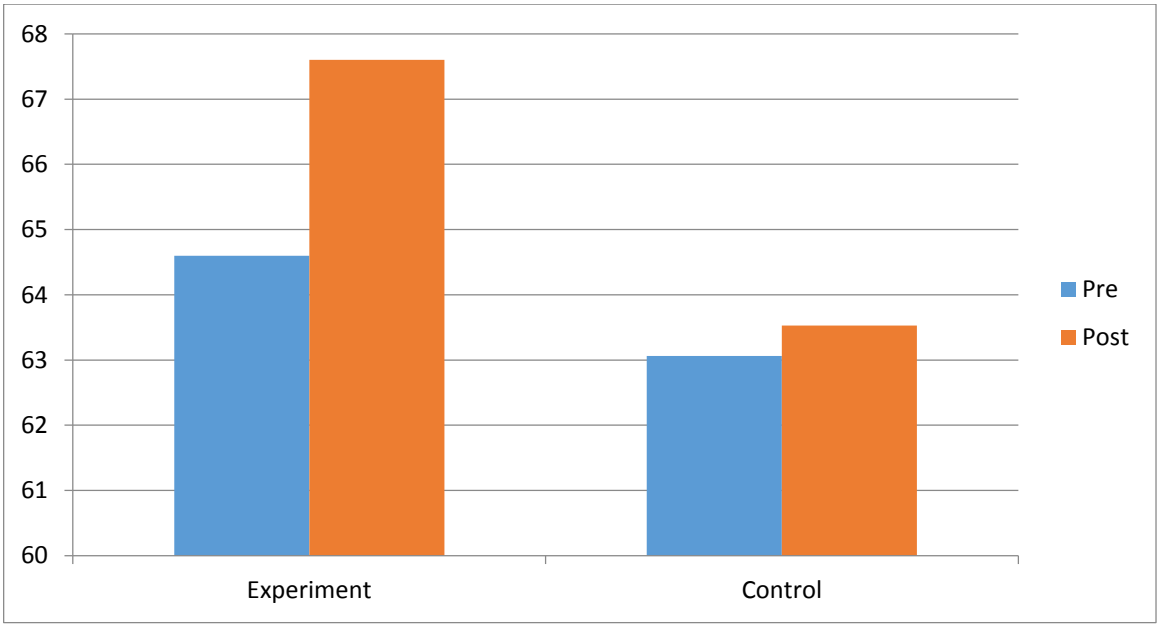


FIGURE-II
BAR DIAGRAM SHOWING THE MEAN VALUE LOWER BODY STRENGTH ENDURANCE AMONG BADMINTON PLAYERS IN EXPERIMENTAL AND CONTROL GROUP

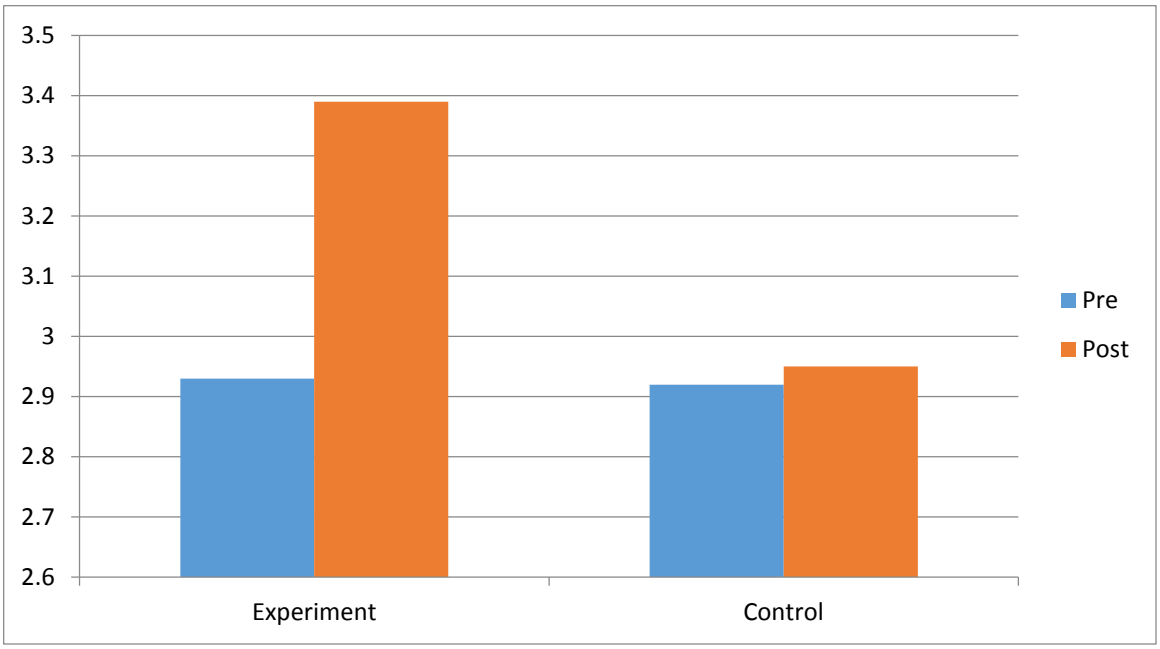
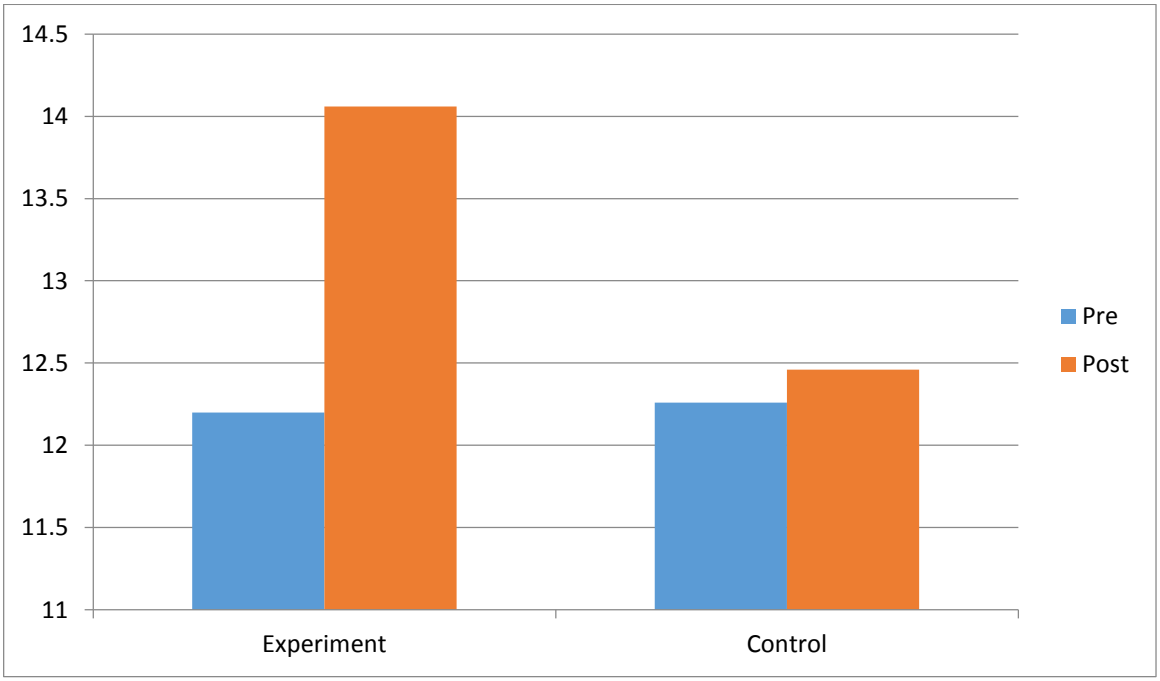


FIGURE-III
BAR DIAGRAM SHOWING THE MEAN VALUE LOWER BACK STRENGTH AMONG BADMINTON PLAYERS IN EXPERIMENTAL AND CONTROL GROUP



DISCUSSION ON FINDINGS

Loop band training combined with specific drills is an excellent training method that has been shown to help badminton players. It was tested to distinguish between the control group and the combination of loop band training and specialized exercises in order to examine the effects of these practices on the strength characteristics among male badminton players. Leg strength, lower body strength endurance and lower back strength are among the strength variables. Lunges, shuffles, diagonal walks and lateral walks are the strength training activities. Action practice, target practice, command practice and command target are the specific drills. Along with some physical fitness components, such as speed, agility and power, it also enhances quickness,

anaerobic capacity, game tactics and eye-hand synchronization. The results provided demonstrated that loop band training was beneficial and the particular drills group had a considerable improvement. The current study's findings demonstrated that college-level male badminton players significantly improve when loop band training and targeted drills are combined. According to **Manihuruk et al. (2023),** The following research showed that training with resistance bands improved badminton players' balance. With a value of 0.00 < 0.05, the results demonstrated that training with resistance bands improved badminton players' balance and the treatment was 63% more effective. Resistance band training is an excellent substitute option for enhancing physical condition skills, including balance. Resistance bands can be used as an alternative by players or badminton teachers as a tool and technique to enhance balance. A study on the effects of ladder and loop band training on handball players' performance variables was completed by **Nirendran et al. In(2023)**. The outcome unequivocally demonstrated that handball players' ladder training improved their passing and throwing accuracy on the loop band.

CONCLUSIONS

On the basis of the results obtained from the present empirical investigation and within the limitation, the following conclusions are drawn after giving the six weeks of loop band training and specific drills.

- Following six weeks of loop band training and specific drills on selected strength parameters such as leg strength, lower body strength endurance and lower back strength significantly improved among badminton players.

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