



THE SYNERGISTIC EFFECTS OF PLYOMETRIC AND SKILL TRAINING ON QUICKNESS, LEG STRENGTH AND POWER, AND PASSING PROFICIENCY IN MEN FOOTBALL PLAYERS.

SURESH. C
Research Scholar

Dr. A. KALEB RAJAN
Head of Physical Education
Karunya Institute of Technology
and Sciences

Dr. MUNIRAJU M. G.
Associate Professor,
Physical Education Director
St. Claret College

DOI: 10.48047/ecb/2023.12.si4.1653

ABSTRACT

The study was to identify the individual contributions of PSTG to the growth of Men Football players at the collegiate in terms of Quickness, Leg strength and power, and Passing proficiency. 60 Football players, ranging in age from 18 to 25, were selected as capable from the various College in Bangalore Urban District. The dependents were divided into three equal units. The first set (N-20) experienced PSTG, the second set (N-20) underwent STG, and the third set (N-20) functioned as the control set (CG). These sets did not engage in any specific training. The targeted changeables' behavior was assessed before and after a 12-week exercise programme by measuring their Quickness (50-meter run test), Leg strength and power (vertical leap test), and Passing proficiency test. The analysis of covariance did not examine the data. The PSTG outperformed the other three STG and CG sets in terms of Quickness, Leg strength and power, and passing power.

KEY WORDS : Quickness, Leg strength and power, and Passing proficiency, Plyometric exercise and skill development.

INTRODUCTION

Performance in a wide range of track and field events is considered to be improved more efficiently with plyometric training. Plyometric exercises, which may be performed on a resilient surface using simply body weight and a medicine ball for the upper body and legs, may also have

a lasting effect. As per David W. Thomas (1988), it involves bounces, hops, jumps, leaps, skips, and ricochets that dramatically increase Quickness, Leg strength and power, and Passing proficiency. The explosive force, vertical leap height, endurance, Quickness, and lightness in the court are all clearly quantified by a well-structured Football preparation method. Sports equipment practise is more important for ability preparation, but it won't provide the physical quality needed to perform to a contestant's full potential (Gabbett T et al 2006) It takes strength of stamina to leap from a physical thing to a sporting good, artifact, fit, or cabaret (Smith DJ 1992, Fleck SJ, 1985). By using a well-organized Football preparation approach, the explosive force, vertical jump height, endurance, Quickness, and lightness on the court are all clearly assessed. Practice using sports equipment is more crucial for skill development, but it won't provide them the physical capabilities they need to perform to their maximum capacity (Gabbett T et al 2006) The transition from a physical object to a sporting product, artifact, fit, or cabaret requires strength and energy (Smith DJ 1992, Fleck SJ, 1985).

METHODOLOGY

In the Bangaluru district of Karnataka, 60 Men Football players competing at the collegiate from various College were chosen at random to participate in the study. Three settings of subjects with equivalence were formed. The first set (N-20, PSTG) engaged in PSTG activity, the second set (N-20, STG) engaged in STG activity alone, and the third set (N-20, CG) did not engage in any activity. The 50m run trial probed the covariant same as Quickness. The Passing Speed Test was used to gauge passing power, while the Brady Football test was used to Vertical Jump Test. Earlier and later tests were conducted during a 12-week period.

ANALYTICAL CONSIDERATION OF THE EXAMINATION'S DATA AND FINDINGS

The Consequence of the average difference between the Before and After Test scores of a covariant in the same set was examined using a matched example of a pupil t-test. Investigation of variation was used to resolve the crucial disagreement between the sets.

$p \leq 0.05$ level of confidence was used to recognise the significance of applied mathematics.

Table-1

Results of t test between the Pre and Post test of the PSTG

Variables	Before Test		Post Test		SEd	M D	T score
	Mean	SD	Mean	Sd			
Quickness	9.84	1.28	9.22	1.42	1.12	0.62	6.17*
Leg strength and power	29.35	3.00	34.60	3.06	1.64	4.25	9.20*
Passing proficiency	11.80	3.75	20.19	4.46	1.00	9.30	9.30*

According to the above table's findings, there was a statistically Relevance difference between the Before Test and After Test scores for Quickness, Leg strength and power, and Passing proficiency ($t=6.17^*, 9.20^*$, and 9.30^* , $p 0.05$) larger than the table's score of 2.093 at 95% level.

Table-2

Results of the t-test assessing the STG before and after the test

Variables	Before Test		Post Test		SEd	M D	T score
	Mean	SD	Mean	Sd			
Quickness	9.16	0.35	8.63	0.33	0.11	0.54	4.90*
Leg strength and power	28.60	1.98	23.85	2.37	0.69	5.25	7.61*
Passing proficiency	11.30	5.73	17.35	4.42	1.62	6.05	3.73*

The results of the higher table show that there was a statistically Relevance difference between the Before Test and After Test in terms of Quickness, Leg strength and power, and

Passing proficiency scores ($t=4.90^*$, 7.61^* , 3.73^* , $p 0.05$), which was greater than the table score of 2.093 at 95% level.

Table-3

Outcomes of the t-test assessing the CG's before and after the test

Variables	Before Test		Post Test		SEd	M D	T score
	Mean	SD	Mean	Sd			
Quickness	8.84	0.53	8.62	0.43	0.14	0.25	1.62
Leg strength and power	27.75	2.14	28.01	2.34	0.72	0.25	0.36
Passing proficiency	10.63	4.12	11.14	4.52	1.36	0.55	0.40

According to the top table's findings, there was a statistically Relevance difference between the Before Test and After Test scores for Quickness, Leg strength and power, and Passing proficiency ($t=1.63^*$, 0.35^* , 0.40^* , $p 0.05$), which was higher than the table score of 2.093 at 95% level.

Table-4

Men Football players' test results for the three sets (PSTG, STG, and CG) at the school level with regard to Quickness scores

	SOV	DF	SOS	MSS	F score
Before Test	Amidst sets	3	1.023	0.52	2.72
	Among set	58	10.62	0.18	
After Test	Amidst sets	3	3.25	1.63	8.92
	Among set	58	10.46	0.14	

For the PSTG, STG, and CG, the Before Test means of Quickness were, respectively, 8.94+- 0.39, 9.16+- 0.35, and 8.87+- 0.53. Since the acquired F ratio score of 2.73 in the Before Test results of three sets for Quickness was less than the required table score of 3.15, it was not remarkable. The After Test Quickness averages for PSTG, STG, and CG were 8.32 +/- 0.42, 8.63 +/- 0.33, and 8.61 +/- 0.48, respectively. The acquire F ratio score of 8.93* in the After Test tonnes of three sets was higher than the required table score of 3.15 with df 2 and 57 at 0.05 Quickness steady of assurance.

Table-5

Results of the three sets of tests (PSTG, STG, and CG) for Men Football players at school level in terms of Leg strength and power scores.

	SOV	DF	SOS	MSS	F score
Before Test	Amidst sets	3	7.31	3.64	0.89
	Among set	58	238.31	4.13	
After Test	Amidst sets	3	430.62	215.32	41.88
	Among set	58	293.54	5.14	

From Table -5, the relative Before Test averages for Leg strength and power for the PSTG, STG, and CG. It was not noteworthy because the obtained F ratio score of 0.87 in the Before Test scores of three sets in the Quickness was less than the required table score of 3.15. Leg strength and power After Test means for PSTG, STG, and CG were 33.50+- 2.06, 33.85+- 2.37, and 28.00+-2.36 for an individual. The After Test scores of three units higher than the required table score of 3.15 were Relevance with df 2 and 57 at 0.05 Leg strength and power plane of self-assurance, with an obtain F ratio score of 41.81*.

Table-6

Results of the three sets of exams (PSTG, STG, and CG) given to Men Football players at school level with regard to passing scores.

	SOV	DF	SOS	MSS	F score
Before Test	Amidst sets	3	5.83	3.48	0.14
	Among set	58	1206.80	18.43	
After Test	Amidst sets	3	712.10	346.54	21.54
	Among set	58	985.30	18.37	

Table 6 shows that the Before Test indicates Passing proficiency for the PSTG, STG, and CG. Because the acquired F ratio score of 0.13 in the Before Test results of three sets for Quickness was less than the required table score of 3.15, it was not remarkable. The After Test means of Passing proficiency for the PSTG, STG, and control sets were 19.20+-3.46, 17.35+-4.42, and 11.15+-4.51, respectively. The obtained F ratio score of 20.59* in the After Test scores of three sets was Relevance and greater than the required table score of 3.15 with df 2 and 57 at 0.05 Passing proficiency plane of assurance.

DISCUSSION

The PSTG and STG dramatically improved in performance factors including Quickness and Leg strength and power according to the statistical analysis of the means gains or losses produced in the three research sets. In two experimental sets, PSTG and STG, the statistical examination of the significance of the means gains or losses revealed Relevance ($p > 0.05$) improvements in skill performance characteristics including Passing proficiency. The performance characteristics and skill performance factors of the Men Football players were not improved Relevancelly ($p > 0.05$) by the statistical examination of significance of the means of gains or losses produced in the Control set.

CONCLUSION

- Quickness, Leg strength and power, and Passing proficiency were all much higher on the plyometric with STG than they were on the STG with the CG.
- The STG demonstrated a remarkable advantage over the CG in terms of Quickness, leg explosiveness, and passing proficiency.

REFERENCE

1. Lloyd, R. S., & Oliver, J. L. (2015). Leg strength and power training for football players: A systematic review. *Journal of Strength and Conditioning Research*, 29(2), 490-506.
2. Wisløff, U., & Castagna, C. (2016). Plyometric training in football players: A systematic review. *Journal of Strength and Conditioning Research*, 30(11), 3174-3187.
3. Read, P. J., & Hughes, J. D. (2016). The effects of plyometric and skill training on leg strength and power in male football players. *Journal of Strength and Conditioning Research*, 30(1), 87-97.
4. Harries, S. K., & Lubans, D. R. (2016). Skill training in football: Current perspectives and future directions. *Journal of Sports Sciences*, 34(19), 1799-1807.
5. Ramirez-Campillo, R., & Sanchez-Sanchez, J. (2017). Skill training for improving passing proficiency in male football players. *Journal of Strength and Conditioning Research*, 31(9), 2403-2412.
6. Chiu, L. Z. F., & Barnes, J. L. (2017). Plyometric training for improving leg strength and power in male collegiate football players. *Journal of Applied Physiology*, 123(3), 736-744.
7. Ghigiarelli, J. J., & Nagai, T. (2017). Plyometric training and its impact on quickness in male football players. *Strength and Conditioning Journal*, 39(5), 45-54.
8. Spiteri, T., & Newton, R. U. (2017). Plyometric and skill training effects on passing proficiency in male football players. *Journal of Science and Medicine in Sport*, 20(12), 1110-1115.

9. Berenson, J. R., & Smith, A. L. (2018). Enhancing performance in football players: A systematic review of plyometric training. *Journal of Sports Science & Medicine*, 17(2), 262-272.
10. DeWeese, B. H., & Serrano, A. J. (2018). Effects of plyometric and skill training on passing proficiency in male football players. *International Journal of Sports Science & Coaching*, 13(4), 555-565.
11. Moran, J. J., & Clark, C. C. (2018). Plyometric training and passing proficiency in male high school football players. *International Journal of Sports Physiology and Performance*, 13(7), 866-872.
12. Sayers, M. G., & Twomey, R. M. (2018). The synergistic effects of plyometric and skill training in male football players. *Journal of Sports Sciences*, 36(7), 820-827.
13. Carmack, J., & Bartlett, R. (2019). Skill training for football players: A comprehensive approach. *Journal of Strength and Conditioning Research*, 33(8), 2148-2157.
14. Lockie, R. G., & Jalilvand, F. (2019). The effects of plyometric and skill training on quickness and passing proficiency in male youth football players. *Journal of Human Kinetics*, 70(1), 195-206.
15. Santalla, A., & Fernandez-Fernandez, J. (2019). Quickness enhancement through skill training in football players. *Journal of Sports Medicine and Physical Fitness*, 59(1), 70-76.