

Influence of specific training programme with and without Video Feedback on selected physical Fitness Physiological and Skill Performance Variables among University Football players

¹M. Sathish, ²A. Sankar and ³P. Ramdevi

¹Assistant Director of Physical Education, Dr. J. Jayalalithaa Fisheries University, Dr. MGR Fisheries College and Research Institute College in Ponneri, Tamil Nadu

²Physical Education Teacher, Sandipani Vidyalaya, Av Melyappan Salai, Vadapalani, Chennai, Tamil Nadu

³Physical Education Teacher, Velammal Vidhyashram Ambattur Chennai. Tamil Nadu

*Corresponding Author e-mail id: sathish.bball@gmail.com

Abstract

The major goal of this research was to investigate how a specific training program with and without video feedback influenced selected physical fitness, physiological, and skill performance variables among university-level football players. To do this, we picked sixty participants at random from university football players. Thanjavur District, Tamil Nadu The participants' ages varied from 19 to 21. The participants were divided into three equal groups of twenty each. Group I (STPWVFG) participated in a specific training program with video feedback five days a week for twelve weeks, Group II (STPG) participated in a specific training program five days a week till twelve and Group III served as the control group. The criterion variables for speed, peak expiratory flow, and dribbling were assessed both before and after the following training.

Keywords: Specific Training Program, Video feedback, speed, peak expiratory flow, dribbling

Introduction

Football training is crucial for improving players' abilities, fitness, and tactical understanding of the game. It usually focusses on important skills including ball handling, passing, shooting, dribbling, defensive positioning, and general fitness. Training sessions also focus on collaboration, strategy, and mental components of the game, such as decision-making and psychological resilience. The training environment contains a range of drills,

small-sided games, and match simulations to help individuals and teams improve (Gabbett 2016). In football (soccer), dribbling is the talent of controlling and manoeuvring the ball past opponents utilising a variety of tactics such as changing direction, pace, and ball control. Effective dribbling is vital for generating space, breaking defensive lines, and moving the ball forward (Gheorghe & Popescu 2014).

VBT enables athletes to thoroughly evaluate their methods, which aids in self-correction and progress. For example, a study of beginner basketball players found that a training program including video modelling resulted in considerable gains in passing performance and offensive play. Participants in video-based sessions demonstrated superior technical execution than those who did not use such tools (Tannoubi *et al.*, 2023).

Peak Expiratory Flow (PEF) is the greatest rate at which a person may expel air from their lungs, as measured using a peak flow meter. It is an important metric in determining respiratory function, especially in those who have asthma or other chronic respiratory disorders. PEF is used to assess the severity of asthma, measure medication efficacy, and detect early warning indications of an asthma attack or deteriorating respiratory function (GINA 2023).

For football conditioning, programming is influenced by several factors, including the physiological demands of the sport. A well-rounded football training program should address endurance, strength, power, agility, and flexibility. Periodized training program, which combines strength and conditioning, is crucial to improving football performance and minimizing the risk of injury (Bompa & Haff, 2009). The importance of sport-specific conditioning drills, particularly small-sided games, for enhancing technical skills under competitive conditions (Stolen, *et al.*, 2005).

Methodology

Selection of Subjects

This study attempts to find 60 university football players in Thanjavur District, Tamil Nadu, India. The subjects were selected at random. Their ages varied between nineteen to twenty-one years.

Selection of Variables

Table-I

S.No	Variables	Test Items	Units of Measurement
1.	Speed Endurance	150 metres run	In seconds
2.	Peak Expiratory Flow	Digital spirometer	In litres
3.	Dribbling	Morgan and Chirstian Soccer Test,1979	In Minutes

Experimental Design

The study applied an actual random group design with a pre-test and a post-test. Sixty participants were chosen from university around Thanjavur District, Tamil Nadu. The 60 participants were divided into three equal groups of 20 each. The experimental and control groups were separated evenly. The experimental group was given a specific training program with video feedback (STPWVFG) and a specific training program group (STPG), whereas the control group (CG) got no training. The speed, peak expiratory flow, and dribbling variables were determined during the pretest. After twelve weeks of training, three groups took the post-test.

Statistical Techniques

The ANCOVA test was used to determine if there was a significant difference between the pre-test, post-test, and adjusted post-test means in the three groups. The data were analysed on a computer with the SPSS statistics software, and the hypothesis was evaluated at the 0.05 significance level.

Result of the Study

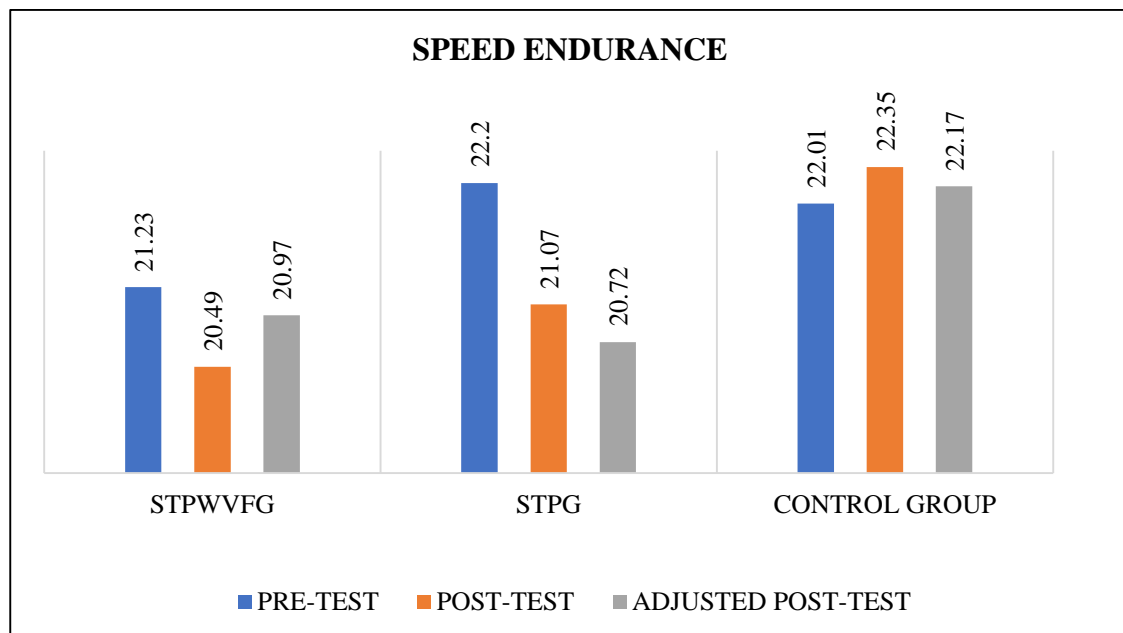
Table-II: Computation of F-Ratio between the Pre-Test, Post-Test and Adjusted Post-Test Means on Speed Endurance of Experimental Groups and Control Group

	STPWVFG	STPG	CG	Sources of Variance	Sum of Squares	Df	Mean Squares	F-ratio
Pre-Test Mean	21.23	22.20	22.01	BG	10.67	2	5.34	1.43
				WG	211.97	57	3.73	
Post-Test Mean	20.49	21.07	22.35	BG	37.23	2	18.61	6.00*
				WG	176.84	57	3.1	
Adjusted Post-Test Means	20.97	20.72	22.17	BG	24.08	2	12.04	46.44*
				WG	14.52	56	0.26	

(*Significance level of 0.05, Table value of 3.16 with df 2,57 & Table value of 4.01 with df 1,56)

Table II indicates that the pre-test means of speed endurance for the specific training programme with video feedback group (STPWVFG), specific training programme group (STPG), and control groups were 21.23, 22.20 and 22.01, respectively. The pretest's attained F-ratio was 1.43, whereas the table's F-ratio was 3.16. Hence, for degrees of freedom 2 and 57, the pre-test means that the F-ratio was insignificant at the 0.05 significance level. The specific training programme with video feedback group (STPWVFG), specific training programme group (STPG), and the control group were post-test means of Speed Endurance was 20.49, 21.07 and 22.35 respectively. The acquired F-ratio for the post-test was 6.00*, whereas the table F-ratio was 3.16. Therefore, the post-test mean F-ratio for degrees of freedom 2 and 57 was statistically significant at the significance level of 0.05. The specific training programme with video feedback group (STPWVFG), specific training programme group (STPG), and the control group had adjusted post-test means of speed endurance was 20.97, 20.72 and 22.17 respectively. The table F-ratio was 4.01, but the obtained F-ratio for the adjusted post-test means was 46.44. Hence, for degrees of freedom 2 and 56, the adjusted post-test means the F-ratio was statistically significant at the significance level of 0.05.

Figure-1: Bar Diagram Showing the Pre-Test Post-Test and Adjusted Post-Test Mean Value of Experimental Groups and Control on Speed Endurance

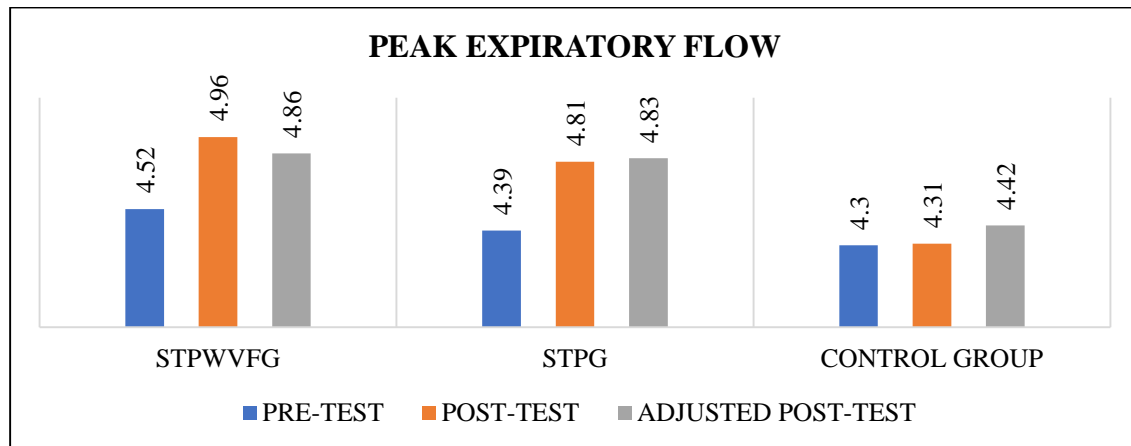


Table–III: Computation of F-Ratio between the Pre-Test, Post-Test and Adjusted Post-Test Means on Peak Expiratory Flow of Experimental Groups and Control Group

	STPWVFG	STPG	CG	Sources of Variance	Sum of Squares	Df	Mean Squares	F-ratio
Pre-Test Mean	4.52	4.39	4.30	BG	0.37	2	0.19	2.78
				WG	3.87	57	0.07	
Post-Test Mean	4.96	4.81	4.31	BG	4.24	2	2.12	27.85*
				WG	4.34	57	0.07	
Adjusted Post-Test Means	4.86	4.83	4.42	BG	2.24	2	1.12	120.03*
				WG	0.56	56	0.01	

(*Significance level of 0.05, Table value of 3.16 with df 2,57 & Table value of 4.01 with df 1,56)

Table III indicates that the pre-test means of peak expiratory flow for the specific training programme with video feedback group (STPWVFG), specific training programme group (STPG), and control groups were 4.52, 4.39 and 4.30, respectively. The pretest's attained F-ratio was 2.78, whereas the table's F-ratio was 3.16. Hence, for degrees of freedom 2 and 57, the pre-test means that the F-ratio was insignificant at the 0.05 significance level. The specific training programme with video feedback group (STPWVFG), specific training programme group (STPG), and the control group were post-test means of peak expiratory flow of 4.96, 4.81 and 4.31 respectively. The acquired F-ratio for the post-test was 27.85*, whereas the table F-ratio was 3.16. Therefore, the post-test mean F-ratio for degrees of freedom 2 and 57 was statistically significant at the significance level of 0.05. The specific training programme with video feedback group (STPWVFG), specific training programme group (STPG), and the control group had adjusted post-test means of peak expiratory flow 4.86, 4.83 and 4.42 respectively. The table F-ratio was 4.01 but the obtained F-ratio for the adjusted post-test means was 120.03. Hence, for degrees of freedom 2 and 56, the adjusted post-test means the F-ratio was statistically significant at the significance level of 0.05.

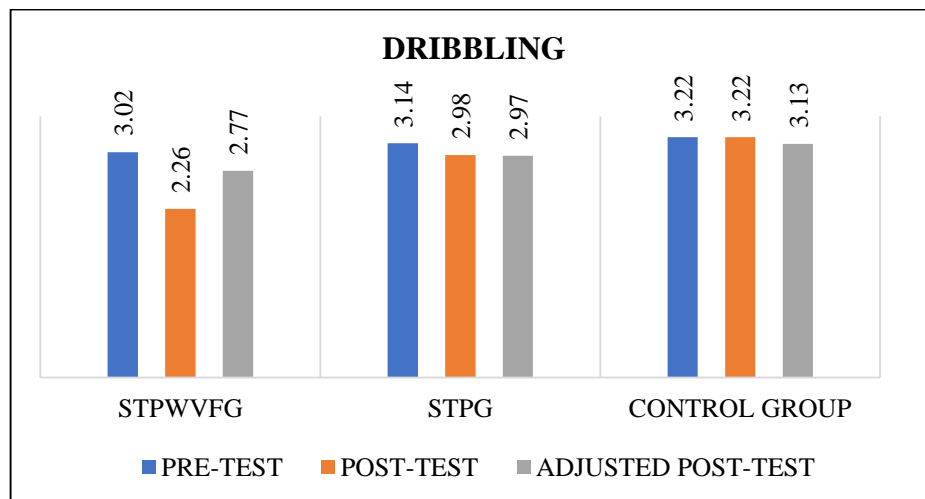
Figure-2: Bar Diagram Showing the Pre-Test Post-Test and Adjusted Post-Test Mean Value of Experimental Groups and Control on Peak Expiratory Flow**Table – IV: Computation of F-Ratio between the Pre-Test, Post-Test and Adjusted Post-Test Means on Dribbling of Experimental Groups and Control Group**

	STPWVFG	STPG	CG	Sources of Variance	Sum of Squares	Df	Mean Squares	F-ratio
Pre-Test Mean	3.02	3.14	3.22	BG	0.40	2	0.20	1.34
				WG	8.59	57	0.15	
Post-Test Mean	2.26	2.98	3.22	BG	3.03	2	1.57	9.24*
				WG	9.37	57	0.16	
Adjusted Post-Test Means	2.77	2.97	3.13	BG	1.21	2	0.60	26.36*
				WG	1.29	56	0.02	

(*Significance level of 0.05, Table value of 3.16 with df 2,57 & Table value of 4.01 with df 1,56)

Table IV indicates that the pre-test means for the specific training programme with video feedback group (STPWVFG), specific training programme group (STPG), and control group of dribbling were 3.02, 3.14 and 3.22 respectively. The pretest's attained F-ratio was 1.34 whereas the table's F-ratio was 3.16. Hence, for degrees of freedom 2 and 57, the pre-test means that the F-ratio was insignificant at the 0.05 significance level.

Figure-3: Bar Diagram Showing the Pre-Test Post-Test and Adjusted Post-Test Mean Value of Experimental Groups and Control on Dribbling



The specific training programme with video feedback group (STPWVFG), specific training programme group (STPG), and the control group of dribbling were post-test means of 2.26, 2.98 and 3.22 respectively. The acquired F-ratio for the post-test was 9.24*, whereas the table F-ratio was 3.16. Therefore, the post-test mean F-ratio for degrees of freedom 2 and 57 was statistically significant at the significance level of 0.05. The specific training programme group with video feedback group (STPWVFG), specific training programme group (STPG), and the control group had adjusted post-test means of dribbling were 2.77, 2.97 and 3.13 respectively. The table F-ratio was 4.01, but the obtained F-ratio for the adjusted post-test means was 26.36. Hence, for degrees of freedom 2 and 56, the adjusted post-test means the F-ratio was statistically significant at the significance level of 0.05.

Discussion of Findings

The study's findings indicate that a specific training program with and without video feedback significantly impacted selected speed endurance, peak expiratory flow and dribbling variables among university football players. After twelve weeks of training, specifically improved on speed endurance, peak expiratory flow and dribbling variables. The findings support the hypothesis that a specific training program with video feedback and a specific training programme would increase physical fitness, physiological and skill performance variables, as reported by Ramya *et al.*, (2024), Varley *et al.*, (2023), Yeole *et al.*, (2023), Vander *et al.*, (2023), Kuswoyo & Lahinda (2020) and Asaad *et al.*, (2024).

Conclusion

It was determined that the twelve weeks of the specific training program with video and without video feedback of university football players had considerably improved the following variables: speed endurance, peak expiratory flow and dribbling in the experimental groups. There was insignificant improvement in the control group.

Reference

- Asaad, Hussein and Ahmed, Mazin. (2024). The activity of an educational field by means of assisting in the development the speed movement and shooting skill of football for youth.
- Bompa, T. O., and Haff, G. G. (2009). *Periodization: Theory and methodology of training*. Human Kinetics.
- Gabbett, T. J. (2016). The training-athletic performance relationship in football players. *Journal of Strength and Conditioning Research*, 30(8): 2214-2224.
- Global Initiative for Asthma (GINA). (2023). Global Strategy for Asthma Management and Prevention. World Health Organization (WHO). <https://ginasthma.org>
- Groom, R., Cushion, C., and Nelson, L. (2011). The delivery of video-based performance analysis by England youth soccer coaches: Towards a grounded theory. *Journal of Applied Sport Psychology*, 23(1): 16-32.
- Gheorghe, A., and Popescu, A. (2014). Football Training: Techniques and Tactics. *Sports Science Journal*.
- Kuswoyo, D. D., and Lahinda, J. (2020). The effects of high-intensity interval training (HIIT) in improving VO2 max football student activity unit, *University of Musamus. Enfermeria Clinica*, 30: 507-511.
- Ramya, S and Vadivel, Gopinath. (2024). Effect of traditional training and saq training on selected skill performance variables of football players.
- Stolen, T., Chamari, K., Castagna, C., and Wisloff, U. (2005). *Physiological aspects of soccer: An update*. *Sports Medicine*, 35(6): 501-536.

- Tannoubi, A., Ouergui, I., Srem-Sai, M., Hagan, J. E., Quansah, F., and Azaiez, F. (2023). Effectiveness of Video Modeling in Improving Technical Skills in Young Novice Basketball Players: A Quasi-Experimental Study. *Children (Basel, Switzerland)*, 10(4): 687.
- Van der Meer, B. R., van den Hoven, M. A. C., van der Kamp, J., and Savelsbergh, G. J. P. (2023). Self-Controlled Video Feedback Facilitates the Learning of Tactical Skills in Tennis. *Research Quarterly for Exercise and Sport*, 1-9.
- Varley I, Sale C, Greeves JP, Morris JG, Sunderland C and Saward C. (2023). Relationship between Football-Specific Training Characteristics and Tibial Bone Adaptation in Male Academy Football Players. *Sports Basel*, 19: 11(4): 86.
- Yeole UL, Praneetha N and Panigrahy C. (2023). Effect of Position Specific Physiotherapy Training on performance of Indian football players: A Randomized Control Trial. *Research in Sports Medicine*. 31(5): 619-627.