



## EFFECT OF ISOLATED AND INTEGRATED TRAINING ON SPEED ENDURANCE AND VARIOUS PERFORMANCE RELATED VARIABLES OF COLLEGE LEVEL SOCCER PLAYERS

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### ABSTRACT

The purpose of the study was to analyze the effect of isolated and integrated training on speed endurance and various performance related variables of college soccer players. Thirty-six boys (N=36) of age group 18 to 23 years were selected from Sulla mussalam Science College Areacode, Malappuram, Kerala. The subjects were equally divided (n=12) two experimental groups and a control group. The experimental groups underwent twelve weeks of isolated and integrated training program on alternate days of a week on every Monday, Wednesday and Friday. The dependent variables for the study were selected namely Speed (linear and curvilinear speed), Speed endurance, Cardio respiratory endurance, Agility, Anaerobic power and Muscular endurance and the independent variables selected for the study were isolated training and integrated training programs. The dependent variables selected were tested prior to and after the training program for all the groups using standardized tests. After the data collection the data were statistically examined by applying descriptive statistics, paired 't' test and analysis of covariance. The data was analyzed using statistical package for social sciences (SPSS). The level of significance was fixed at 0.05 level. On the basis of the findings of the study isolated and integrated training program had improved performance on the selected variables curvilinear speed, Yo-Yo IR2 distance, cardio respiratory endurance and agility.

**KEYWORDS** : Isolated Training, Integrated Training, Speed Endurance & Performance related variables

### INTRODUCTION

Soccer is perhaps the most demanding of all sports. In the modern game (at any level) soccer training and conditioning is essential. Few sports are played on as large a playing field, lasting as long and without regular rest periods. Players cover 8-12km during a match, consisting of 24% walking, 36% jogging, 20% coursing, 11% sprinting, 7% moving backwards and 2% moving whilst in possession of the ball. Training is compulsory to the players because the game demands most of the fitness components such as speed, strength, endurance, coordination etc. Soccer is probably the most popular sport in the world. Despite its universal nature and its formal history extended back over a hundred years, there are still many uncertainties concerning its multidimensional requirements (physiological, psychological, biomechanical) and therefore uncertainties when planning for optimal training and conditioning. In fact, this game is very complex because the pitch is substantially large (100 × 64mts minimum), the ball is controlled with the feet and head and there may be interactions within eleven teammates and between eleven opponents, almost all with different roles in the game. Isolated and Integrated training are two important training strategies used by the coaches for improving the performance of the players in the competition. Isolated training is a traditional and generalized method of training which aims to prepare the sports person physically fit in isolation. Integrated training in soccer refers highly specialized (specific) forms of football practice. Integrated training which emphasizes different components of the game, will provide an environment for the acquisition and advancement of

game understanding, and technical ability – or better still, skills performed under pressure.

### METHODOLOGY

The investigator selected thirty-six (N=36) experienced football players between the age 18 to 23 from Sullamussalam Science College Areacode. The subjects were equally divided in to three groups (n=12) namely experimental groups (isolated training group and integrated training group) and a control group. Purposive sampling method was adopted for selection of the subjects for the present study. Through both the critical and allied literature pertaining to the problem under consideration, the following independent and dependent variables were selected,

- 1. Independent variables** – Isolated training, Integrated training
- 2. Dependent variables** – Speed (linear and curvilinear speed), Speed endurance, Cardio respiratory endurance, agility, Anaerobic power and Muscular endurance.

All the subjects of the group involved in the study underwent twelve weeks of isolated and integrated training activities for thrice in a week except the control group.

### ANALYSIS AND DISCUSSION ON RESULTS

The data was statistically analyzed by applying paired 't' test. The level of significance was set at 0.05 level. The summary of analysis is presented in Table I

**Mean Difference of the selected variables**

Variables	Control factors	Pre test			Post test			t-ratio	Table Value
		N	Mean	SD	N	Mean	SD		
Linear Speed	Control	12	4.53	0.17	12	4.64	0.16	2.80	2.20
	Integrated	12	4.59	0.16	12	4.29	0.10	10.75*	2.20
	Isolated	12	4.53	0.13	12	4.20	0.62	1.73	2.20
Curvilinear Speed	Control	12	7.07	0.24	12	7.30	0.29	3.75	2.20
	Integrated	12	7.03	0.14	12	6.57	0.14	6.99*	2.20
	Isolated	12	7.08	0.18	12	6.91	0.17	4.99*	2.20
Speed Endurance	Control	12	1206.67	151.44	12	1233.33	177.11	0.85	2.20
	Integrated	12	1273.33	218.31	12	2143.33	199.97	13.09*	2.20
	Isolated	12	1250.00	270.82	12	1620.00	269.65	12.33*	2.20

Cardio respiratory endurance	Control	12	73.76	13	12	88.46	10.60	0.85	2.20
	Integrated	12	77.84	10.86	12	102.69	6.28	13.09*	2.20
	Isolated	12	79.95	17.65	12	99.74	10	12.33*	2.20
Agility	Control	12	10.68	0.30	12	10.73	0.48	0.66	2.20
	Integrated	12	10.03	0.45	12	9.67	0.30	5.22*	2.20
	Isolated	12	10.51	0.48	12	10.37	0.49	3.58*	2.20
Anaerobic Power	Control	12	53.64	2.51	12	55.45	2.28	4.95	2.20
	Integrated	12	52.19	2.15	12	50.85	3.26	1.40	2.20
	Isolated	12	51.85	2.30	12	52.60	2.85	1.17	2.20
Muscular Endurance (Sit-Ups)	Control	12	33.50	6.36	12	31.50	5.55	1.92	2.20
	Integrated	12	44.50	8.74	12	55.42	5.18	4.13*	2.20
	Isolated	12	41.92	5.88	12	49.75	8.26	4.91*	2.20
Muscular Endurance (Push-Ups)	Control	12	29	4.31	12	29.08	3.94	0.43	2.20
	Integrated	12	29.25	4.25	12	29.33	4.05	0.42	2.20
	Isolated	12	29.08	4.50	12	29.25	4.07	0.69	2.20

\*Significance at 0.05 level of confidence

## CONCLUSIONS

From the statistical analysis it is evident that selected performance related variables such as speed, speed endurance, cardio respiratory endurance and agility significant changes were noticed in both isolated and integrated training groups after twelve weeks of training program.

However, no changes were found both isolated and integrated training groups in the case of anaerobic power and muscular endurance. The study revealed two important conclusions. First, Integrated training, used as a training tool, mimic the workload as well as specific movements encountered during a full sided competitive match. Thus, both overload and specificity requirements of a training program are met. Second, the use of integrated training over four to twelve weeks can maintain and improve fitness. Further the adaptations are similar in magnitude to isolated training.

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