

# Effects of Specific Physical Fitness Regimen on Selected Motor Fitness Parameters among Tribal Girls in Andhra Pradesh

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## Abstract:

Present investigation focus on the impact of specific physical fitness regimens on selected motor fitness parameters among tribal girls in Andhra Pradesh. Motor fitness is a crucial aspect of overall health and well-being, especially for young individuals. By understanding how different fitness programs affect motor skills, educators and policymakers can design targeted interventions to enhance physical fitness in tribal communities. To meet the purpose of study the investigator has selected 50 subjects out of 125 admitted students in 10<sup>th</sup> and intermediate volunteered teenage girls, age is from 15 to 17 years, and belongs to APTWRS, Nerawada, Panyam, Nandyal dist, the volunteered subjects were systematically exposed to specific physical fitness program for four days per week at the rate of 60 minutes including warm up & limbering down. The selected parameters are Speed, Explosive Power and Agility were measured pre and after 12 weeks of planned training regimen. By 50mtr run, Standing broad jump, and Semo agility respectively. T-test was applied in order to find out significant difference between and pre and post test data after training period. The level of significance is fixed at 0.05 level of assurance. The result of the study shows that the significance difference exists between pre and post measures of Speed, Explosive Power and Agility. All the volunteered students enthusiastically participated in specially designed training protocol, at the beginning they expressed discomfort, later it is subsided. Finally it concludes that the Specific Physical Fitness training put a favourable impact on speed, Explosive power and Agility.

**Keywords:** Physical Fitness, Motor Fitness, Tribal Girls, Training.

## Introduction

Every child will undergo a tremendous change as a result of value based education to build with potentialities in order to face the future challenges. Tribal girls in Andhra Pradesh face unique challenges related to physical fitness. Factors such as lifestyle, access to resources, and cultural context influence their overall health. This study aims to explore on the effects of specific fitness regimen on motor fitness components, which includes speed, explosive power, and agility. Physical activity is important for children of all ages who are growing quickly in weight, height and strength. By getting

active while they're young, they'll improve cardiovascular health, lower their stress, decrease their risk of developing health issues, and create healthy habits that will stay with them throughout their lives. The concepts of physical fitness which might assist you to stay fit to exude confidence, optimism, and self-efficacy; they have the energy reserves to do what needs to be done today and to plan for a better tomorrow. The most effective and transformative goals are those designed to achieve the highest level of personal wellness **Zerihun Birhanu & Haileyesus Gedefaw (2019)**.

Children and youth participate in physical activities to develop and demonstrate physical competence, attain social acceptance and approval, and experience joyful life. Satisfying these motives enhances interest in sustaining physical activity, which contributes to improved motor skills, self-confidence, social relationships, and other positive outcomes. It explores motor skill development and youth physical activity through a social psychological and the benefits of integrating scientific knowledge from our respective fields to inform research and professional practices. Motor development and sport psychology researchers can collaborate to address critical issues related to motor and perceived competence and physical activity **Mauroon R Weiss (2020)**.

Physical activity benefits children and adolescents by increasing fitness, boosting self-esteem and establishing friendships. It also helps to prevent or reduce the risk of stress, obesity, and a host of other conditions that can negatively affect a child's health. Free play, especially outdoor play, helps kids develop their problem-solving skills and can help improve symptoms of conditions like Attention deficit hyperactivity disorder. Physical play impacts development throughout the various stages of a child's life. Sports is a complex process and it consists of various type of activities and there are different types of training methods and different types of exercise to develop the motor fitness abilities of the individuals. Now a Days sports and games are highly scientific fields and depends upon the capabilities, physical fitness and motor fitness of the individual like muscular strength, endurance, speed, balance, reaction time, speed, agility etc. These are basic requirements for participating in all kinds of games and sports. Fitness of player can be improved with the help of various specific training i.e., Swiss Ball training, circuit training, etc. These specific training improves the fitness level of individuals. Motor fitness only can be developed through regular participation in exercises and other related activities. In the modern sports the concept of motor fitness has become a point of attraction Therefore the researcher realized the importance of the Swiss ball exercise in order to develop motor fitness Component of the school girls.

**Bhargeb Borah, Priyanka, (2016).**

**Methodology:**

The researcher taken up a study with a sample of tribal girls. The experimental group will follow a structured fitness regimen. To meet the purpose of study the researcher has selected 50 subjects out of 125 admitted students in 10<sup>th</sup> and intermediate volunteered teenage girls, their age is from 15 to 17 years, they belongs to APTWRS, Nerawada, Panyam, Nandya Dist, A.P. The volunteered subjects are exposed to specific physical fitness program for four days per week at the rate of 60 minutes including warm up, and limbering down. The selected parameters are speed, explosive power and agility which are measured pre and after 12 weeks of planned training regimen. The t-test was applied in order to find out the significant difference between pre and post test data. The level of significance is fixed at 0.05 level of assurance.

**Motor Fitness Parameters:** The study assessed the following motor fitness components:

- **Speed:** Measured through timed sprints.

- **Explosive power:** measured by standing broad jump.
- **Agility:** Assessed through Semo Agility test.

**Expected Outcomes:** The researcher anticipated that the specific fitness regimens certainly lead to improve motor fitness among tribal girls. By enhancing these skills, participants may experience better overall health, reduced injury risk, and improved physical performance.

**Significance:** Understanding the effects of specific physical fitness programs on motor skills which are essential for promoting a healthy lifestyle among tribal communities. The findings from this study sensitised on the effective educational policies, physical education curricula, and community-based interventions.

### Selection of Variables

The researcher has gone through the available literature and participated lengthy brain storming sessions with the subject experts and the research supervisor and guide before selection of the variables for the study. The available of techniques for the purpose of analysis. Feasibility, reliability of the procedure and outcome were extensively taken care before finalizing the variables. After examining various factors associated with the present study the following most ideal variables were chosen for testing.

### Justification of Variables

- Speed
- Explosive power
- Agility

The relevance and relation of these variables in the study are explained below

#### Speed

Ability to move the entire body rapidly from one place to another is referred to as speed. Even though speed and reaction time are related, they are distinct characteristics. Both looks like one trait but still have chief difference. There are different forms of speed viz. Speed of every movement of body segments, running speed for a very short distance (acceleration rate) and maximum running speed.

Speed movement is highly specific to the areas of body. An individual with fast arm movement may have slow leg movements. In fact, this specificity extends even to the type of task and the direction of movement. Running speed comprises of two factors namely (a) acceleration rate and (b) maximal velocity. This is the most important consideration in speed for distance about 20 yards and is very essential in the court and field games and short races, as well. The second factor is related to a distance greater than 20 yards where in maximal speed is more important. Therefore, an individual may be slow starter but achieve a maximal speed after 20 yards distance. Indeed, a person may be proficient in Handball, Football, Basketball, or Tennis where involves quick acceleration. Under this state of condition, the speed is significantly considered as a variable. **B. Rama subba Reddy (2010).**

#### Explosive power

Anaerobic activities are related to the leg power. Greater the leg power, better the anaerobic performance in the field of sports and games. Leg power is essential with muscular strength. This is developed through maximum load of weight training. Muscular strength and explosive power increases due to the increase in the size of muscle fibers which are present in leg muscle. The presence of actin, myosin and

other myofibril proteins in the muscle fibres develops muscle. The explosive power of leg associates with the fast twitch muscle fiber. Greater the percentage of this fast twitch muscle fibers, better the legs explosive power and speed. Hence, the leg explosive power plays a vital role in most of the anaerobic activities

**Agility**

Agility means ability to change the direction of body and its parts rapidly and accurately. The ability of a performer may be influenced either by reaction of known type or by unknown direction. The perform refers to anticipation of reaction of an undetermined type and the later refers to an unknown direction to a set of stimuli that may vary widely. Example for the above causes is a sprinter's reaction to the starting gun and a soccer defensive half-back reaction to the changes in speed or direction of a pass receiver respectively.

**Selection of Tests**

Selected parameters Speed, Explosive Power, Agility and their respective tests are given below in Table I

**TABLE -I**

S. No	Variables	Tests	Units
1	speed	50 meter dash run	Seconds
2	Explosive power	Standing broad jump	Centimetres
3	Agility	Semo agility	seconds

**ANALYSIS & RESULTS**

**SPEED**

**Table- II: T-test for Pre & post test data on Speed of Specific Physical Fitness training group.**

Test		$\bar{X}$	$\sigma$	SE	r	DM	$\sigma$ DM	Obtained 'T' Ratio	Table 'T' Ratio
Speed	Pre-test	9.278	0.661	0.093	0.564	2.308	0.083	27.087*	<b>2.0092</b>
	Post-test	6.97	0.513	0.072					

**\*Significance at 0.05 level of confidence**

Table value for significance at 0.05 level with degree of freedom 49 are 2.0092.

Table II shows that the pre-test and post-test means of specific physical fitness training group are 9.278 and 6.97. The achieved 't' ratio of 27.087 for specific physical fitness training group is greater than the table value 2.0092 for the degree of freedom 49 at 0.05 level. The result of the study shows that there is significance difference exists between pre and post values of specific physical fitness training group on Speed.

Mean values on speed of experimental group is graphically illustrated in figure I.

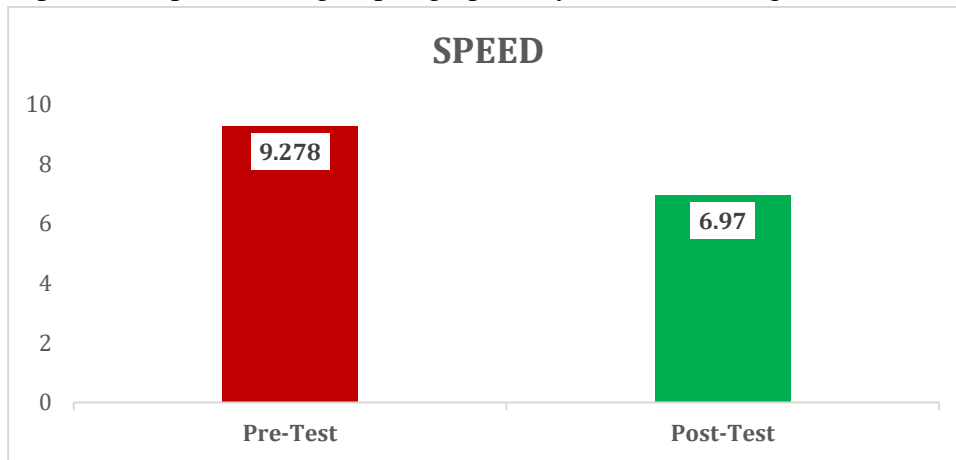


Figure I: Bar diagram on Speed means of specific physical fitness training group.

**EXPLOSIVE POWER**

Table- III: T-test for Pre & post test data on Explosive Power of Specific Physical Fitness training group.

Test		$\bar{X}$	$\sigma$	SE	r	DM	$\sigma_{DM}$	Obtained 'T' Ratio	Table 'T' Ratio
Explosive power	Pre-test	1.476	0.070	0.009	0.231	0.665	0.009	73.888*	2.0092
	Post-test	2.141	0.031	0.004					

\*Significance at 0.05 level of confidence

Table value for significance at 0.05 level with degree of freedom 49 are 2.0092.

Table III shows that the pre-test and post-test means of specific physical fitness training group are 1.476 and 2.141. The achieved 't' ratio of 73.888 for specific physical fitness training group is greater than the table value 2.0092 for the degree of freedom 49 significance at 0.05 level of assurance. The result of the study shows that there is significance difference exists between pre and post values of specific physical fitness training group on Explosive Power.

Means values on Explosive Power of experimental group is graphically portrayed in figure II.

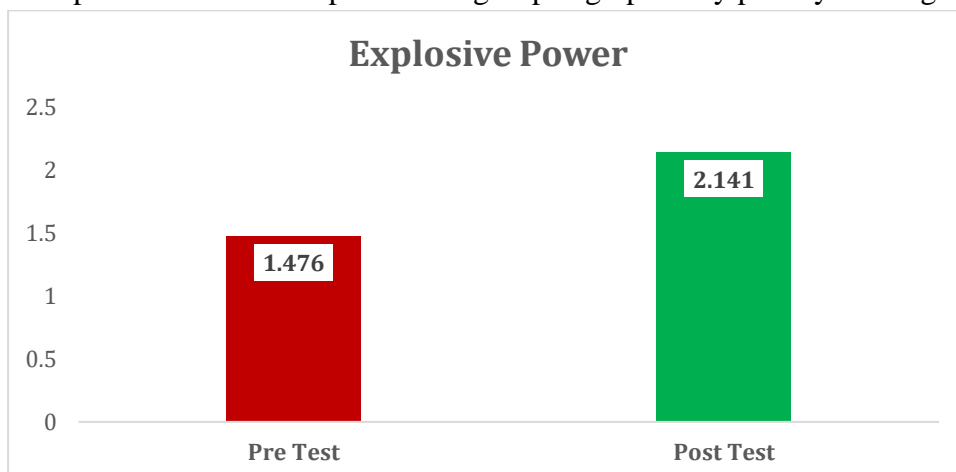


Figure II: Bar diagram on Explosive Power means of specific physical fitness training group.

**AGILITY**

**Table- IV: T-test for Pre & post test data on Agility of Specific Physical Fitness training group.**

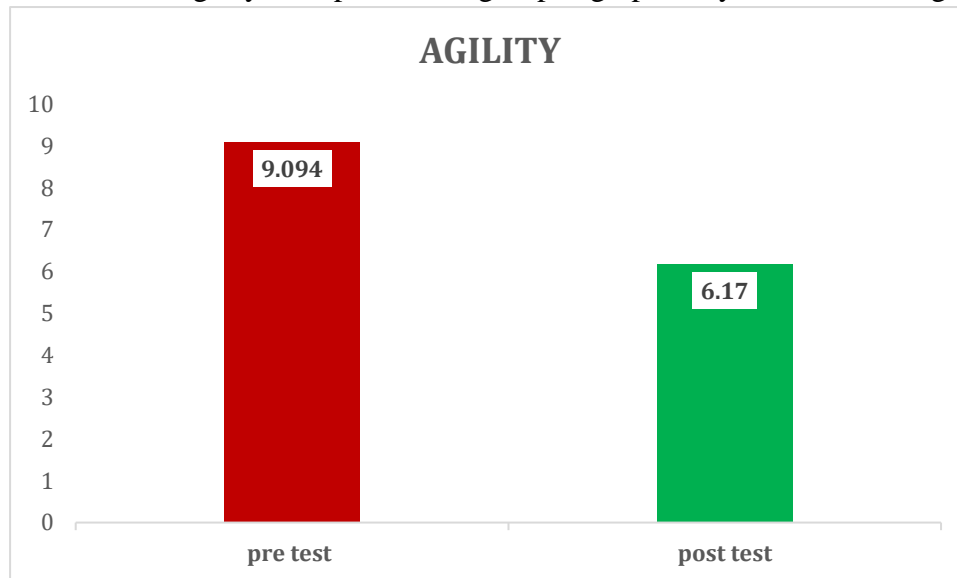
Test		$\bar{X}$	$\sigma$	SE	r	DM	$\sigma$ DM	Obtained 'T' Ratio	Table 'T' Ratio
Agility	Pre-test	9.094	0.438	0.061	0.013	2.924	0.054	54.148*	2.0092
	Post-test	6.17	0.260	0.036					

**\*Significance at 0.05 level of confidence**

Table value for significance at 0.05 level with degree of freedom 49 are 2.0092.

Table IV shows that the pre-test and post-test means of specific physical fitness training group are 9.094 and 6.17. The achieved 't' ratio of 54.148 for specific physical fitness training group is greater than the table value 2.0092 for the degree of freedom 49 significance at 0.05 level. The result of the study shows that there is significance difference exists between pre and post values of specific physical fitness training group on Agility.

Means values on Agility of experimental group is graphically illustrated in figure III.



**Figure III: Bar diagram on Agility means of specific physical fitness training group.**

**Discussions:**

**Suresh et al., (2021)**, focused on the effects of speed, agility, and quickness training and resistance training on the physical and skill performance of tribal football players. The research is significant as it addresses the need for specialised training programmes tailored to the unique requirements of tribal athletes.

**P. Lakshman Naik (2020)**, Studied on the impact of a specific physical fitness regimen on tribal school girls in Andhra Pradesh, it found that it improved motor fitness parameters, contributing to overall health and well-being. It also highlighted the importance of tailoring fitness programs to girls' specific needs, fostering community engagement, and promoting health.

**Conclusion:**

Findings of the study indicates that the Specific Physical Fitness training is better training to improve

speed, Explosive power and Agility. Among tribal girls it is necessary to bring out designed outcomes through a specific physical fitness.

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