SURVEY OF PHYSICAL FITNESS AMONG TRIBAL SCHOOL BOYS OF KURNOOL DISTRICT OF ANDHRA PRADESH AND THE INFLUENCE OF PHYSICAL ACTIVITIES PROGRAMME ON THEM

A Thesis submitted to the Pondicherry University through the Department of Physical Education and Sports in partial fulfillment of the requirements for the Award of the Degree of

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IN

PHYSICAL EDUCATION

Submitted by

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DEDICATED TO MY

FAMILY, TEACHERS &

FRIENDS

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CHAPTER - I

INTRODUCTION

Survey

Survey plays a predominant role in every walk of life. Now-a-days such as to know or to assess the economic status of the people, the birth rate, the literates and illiterates, in the faculty of Engineering technology, to some extent in the faculty of Engineering technology, to some extent in the field of Geography to measure the area of land, outlining the map and so on. News papers take survey to predict the verdict of the election results and to know the views of people about the electoral reforms.

To know a particular aspect of a being Survey is a common media. "The Survey method gathers data from a relatively large number of cases at a particular time. It is not considered with characteristics of individuals. It is concerned with the generalized statistics that result when data are abstracted from a number of individual cases" **(Best 1977).**

Surveys are primarily descriptive in nature. Typically data are gathered from a sample of large population at a given point in time.

Meaning of Tribes

"The historical perception of the form Tribe derived from a Latin root. The Middle English term 'tribe' meaning the three divisions, into which the early Romans were grouped, comes to develop into the advanced English 'tribe'. Today, with the anthropologists and sociologists of western origin, the term means according to the latest edition of the Oxford dictionary, a race of people; now applied especially as a primary aggregate of people in a primitive or barbarous condition, under a lead own or chief".

As the name implies, tribal are 'Adivasi' or original dwellers, living in the subcontinent from unrecorded time and possible had driven into the forests by more aggressive settlers – Aryans beings the earliest one to socially subjugate them. In order to resist complete domination, tribal evolved their distinct identity through endogamy, their cropping pattern, hunting and food gathering.

Characteristics of Tribal Society

There are few characteristics of tribal society.

- They have usually a well-demarcated geographical territory.
- Generally they live in forest or hilly areas.
- Their territory is relatively isolated or semi-isolated compared to other social group.
- They have their own culture, folklore and cosmology and belief system.
- These people economically self sufficient. They does not possess surplus of money.
- They are more interested in earning their today's need and do not bother about their future requirements.
- They have their own language; generally do not have any script.
- They have their own political system, i.e., both stateless and state. Earlier they have stateless system, i.e., without any tribal chief. They manage their law and other system through family and kinship ties. Later on, came the state system, when tribal nominated or elected their own chief's. Today, of course this autonomy has been lost and they have become part of the local administration.
- ix. Tribal societies are known as simple societies because their social relationships are primarily based on family and kinship ties. Besides they do not have any rigid social stratification.
- They have their own religion, i.e., having their own deities (gods and goddesses) and belief system. Their forms of religion are known as animism (worshiping the soul or ancestor), animatisms (worshipping any non-living body like stone or wood), totemism (worshipping a tree or any animal as the founding ancestor), and naturism (worshipping object of nature like river, stream, sun, moon, forest, etc.).
- They have sense of belongingness to their won community, they feel that they are the sons of the soil and hence they have a strong ethnic identity.

Over a span of seventy years of independence tribals of our country are yet to achieve significant development in the fields of Physical Education, health and wellness. Many of them, even today are struggling for their existence in remote tribal areas which are far away from the district headquarters of the tribal dominated districts. Tribal children do not find schools, and play field teaching as interesting and meaningful. They continue to suffer from utter poverty, their dreams and aspirations are very limited. It has been felt that through physical education we can empower them, generate awareness in them for a better living with minimum facilities for human life. In spite of various governmental programmes that have been introduced as interventions for promoting physical education and sports among the tribals, they are only peripherally touched by the Physical education system. It is true that a tribal child is a child of nature traditionally. To wine them away from the totems and taboos that circumscribe them and to bring them into the main stream of National life is a delicate task and needs careful and sympathetic handling.

Even after 65 years of independence the education of the tribes remaining still in a poor condition tribal development is a National policy and it needs positive measure for the upliftment of the tribes any attempt for social change and national progress should start from the eradication of literacy. According to the constitution of India, tribal develop is a special responsibility of the government of India; Governors are responsible for reviewing the administration and development of tribal areas and for reporting to the president. Our beloved leader, late Jawaharlal Nehru shout to the tribes to'' develop along with the lines their genius ".Addressing on all India conference of the tribes held at jagdalpur (Bastardistrict,M.P) in march 1955, he said," whenever you live, you live in your own way. We want that your customs should survive and at the same time we want that you should be educated and should do your part in the welfare of our country" (Nehru, 1955). **(Report of the education commission 1964, p-143).**

Tribes Population in India

As per the Census 2011, the total population of the Scheduled Tribes in India is 1,04,545,716, which is 8.6 per cent of the total population of India. **(Registrar General, 2013)**

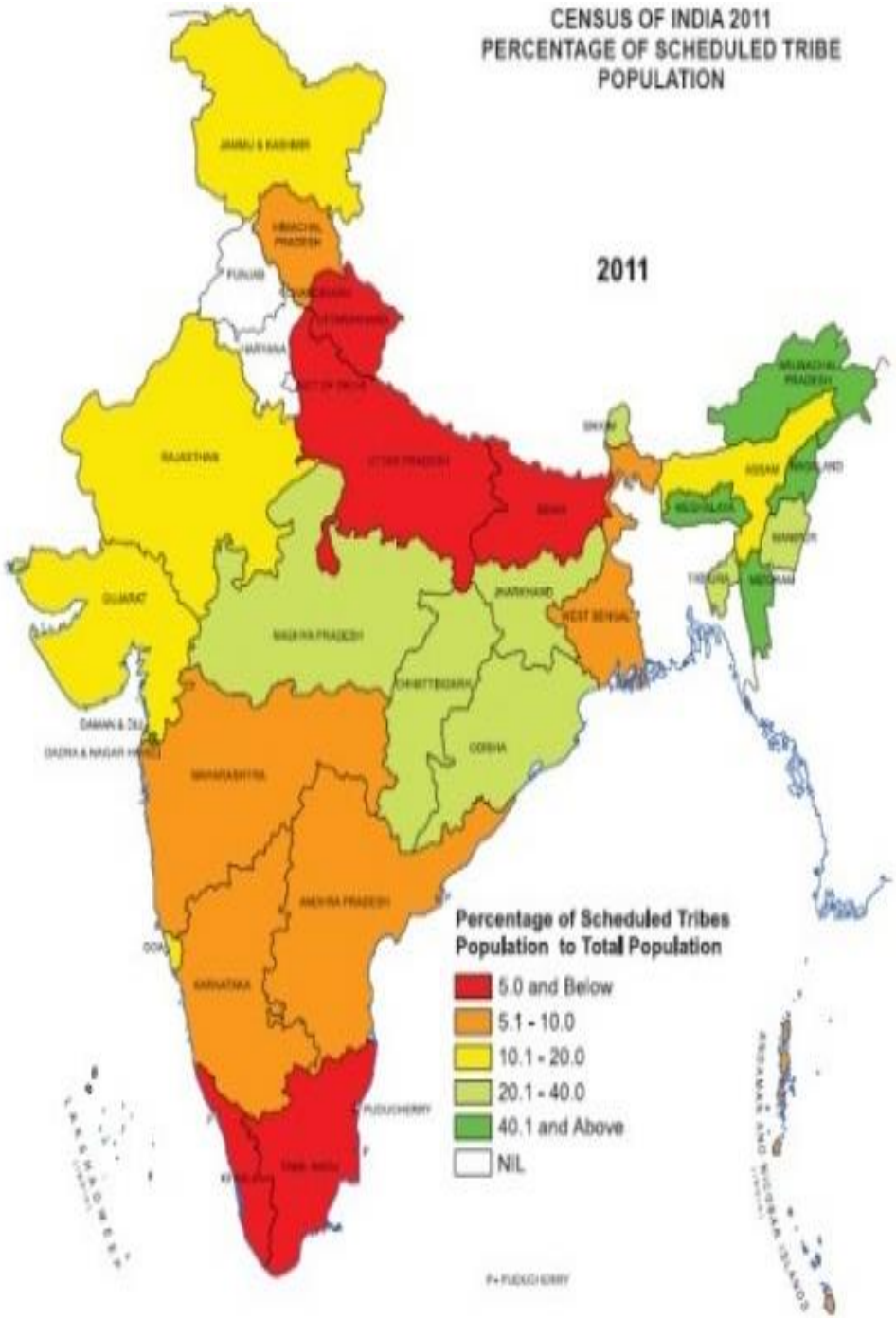
Tribe People

Scheduled Tribes in India are generally considered to be ‘Adivasis’ meaning indigenous people or original inhabitants of the country. The tribes have been confined to low status and are often physically and socially isolated instead of being absorbed in the mainstream Hindu population. The Constitution recognizes the Scheduled Tribes on the basis of geographical isolation and distinct cultures.

Problems Faced By the Tribes People

The people those who are belong to ST are most deprived population in India. They are facing a number of problems in their day to day life for which they are not able to access education. The whole life they are spending for their livelihood still they are not able to take food two times per day. In general the ST children are also facing a number of problems in their day to day life. The ST people are living in the remote area which is known as tribal area. Entry of outsiders into tribal areas is also a problem to the ST people. Industrialization and urbanization have also resulted in loss of tribal ways of life. Some of the problems like problems related to forest, agriculture, land alienation, indebtedness and bonded labour, problem of health and nutrition, lack of communication, lack of education, migration and its effect, displacement of tribals, problem of identify, illiteracy of parents, lack of awareness about the government facilities for them to access education, etc. The STs were indigenous people who lived in hilly, forest and coastal areas. Their social organization is different from tribe to tribe and many of these tribes do not have their own script or dialects. They have only the spoken language which they us in their day to day life. The tribal societies had some organization to prepare their young children to take their places socially useful and productive citizen of their own society. Some of other problems are medium of instruction and the mother tongue of the child, artificial setting of schooling. The tribal societies have their own specific learning style-learning by imitation.

GEOGRAPHICAL AREA OF TRIBAL COMMUNITY IN INDIA



Tribal Sports

Tribal sports are played only on tribal areas can participate in these games. These are separate games for children, youths, adult men and women. The tribal games are played in public places, streets and in front of houses. These games are played in front of the people. Thus people enjoy by watching the games. Tribal sports are played during different occasions such as harvest, festival and leisure time. Dhimsa, Group dance etc will be played during the time of harvest and called as cultural activities. The games such as breaking the pot can be listed under the festival time games. Goleelu, KarraBilla, Bongaralu, Lifting the stone is grouped under leisure time games for recreational purpose.

Amuse oneself with pleasant pastime of recreation engagements for playing with some tools in tribal games. Sports have been described as the phenomenon which depends on complete relaxation and full effort. It provides physical education, rehabilitates. It shapes man and shaped by man and whatever else, It is sport, a thing of remarkable power **(Wrightstone, Juston and Robinds 1988).**

Kurnool District of Andhra Pradesh

Kurnool District is one of the largest Districts in the State of Andhra PradeshinIndia. The Kurnool city is the main city and the administrative capital of the district. According to 2011 census it has a population of 4,053,463 of which 28.35% were urban. Considering it geographical area, Kurnool is the 10^{th} biggest district in India and the second in Andhra Pradesh. The district has 17,658 square kilometers (6,818 sq mi) of its own. In terms of population, it secures the 53^{rd} place in India.

The education infrastructure of the State in Kurnool district is relatively good and it consists of Primary and Secondary schools run by the State government along with the numerous aided and private schools. Both these institutions are run under the State School Education Department. According to the school information report of the academic year 2015-16, the Kurnool district has a total of 4,179 schools. These schools include, seventy eight government, two thousand three hundred and ninety eight mandal and zillapariishads, and one residential, one thousand three hundred and fifty five private, thirty three model, fifty three Kasturba Gandhi BalikaVidyalaya (KGBV), one forty municipal and one hundred and twenty one other types of schools. Taking

primary, upper primary and high school strength together there are a total of 6,31,740 students are enrolled in the district.

Kurnool district is a drought prone area. That reflects in poverty. The standard of Physical education is also low according to the data. Hardly permanent teachers are found in the schools. Schools playground facilities and appointment of physical education teachers are scarcely attended. Since physical fitness is vital for the wellbeing of the individuals, physical education activities are essential in the school curriculum.

Physical Education

Physical education is a vital element of general education in which physical activities are used as a means of educating or molding a person for better living. Physical activities are educational tools in the hands of the teacher who aims at the education of the body and education through the body. These physical activities are nothing, if not educational in their approach, content and results. “Muscular vigour”, says William James, the eminent psychologist, “will always be needed to furnish the background of sanity, serenity and cheerfulness to life, to give moral elasticity to our disposition, to round off the wiry edge of our fretfulness and to make us good humored is the easy of approach”. Education of the whole man is the objective which goes far beyond the attainment of mere “physical vigour” so that the individual may grow and develop fully and be enabled to live the abundant life “now as a child and later as an

adult". Physical education has a distinct contribution to make to the enrichment of general education and it seeks to further the purpose of modern education, namely, the attainment of the finest kind of living. It is a continuation of the process of education in the class room, on the play ground and the athletic field without which education is bound to be incomplete and ineffective.

According to **Robson (1983)** Physical education necessarily indicates the programme of sports and games in the educational institution as a curricular, co–curricular or extra– curricular activity**.**

At present Physical Education plays an inevitable role in the education system. Physical Educators have been concerned with promoting and developing the quality of "Physical fitness" among the populations.

Physical education is a generally associated with competitive sports or development of muscles or maintaining the health or body building or military drill. Physical education is rightly recognized as integral part of education. It is obvious that physical education and education should both work harmoniously in the total process of education. Physical education should help to develop skills and attitudes, which will be conclusive to the wise use of leisure time and provide opportunities for emotional control, living according to acceptable social standers and self expression.

A good athlete is like a machine, he needs good fuel constantly in order to maintain top performance. A healthy mind rests only in healthy body. One can be mentally sound only when his body is physically fit.

The great Greek Aristotle coated in this book that the roman teachers told their disciplines that the healthy mind might and spirit of the body have to be physically fit and dynamic. **(Charles A.Bucher, 1979).**

Fitness

Fitness is a dynamic, constantly changing quality. The development of which should be continuous and satisfy from early infancy through maturity, so that the inherent potentialities of each person can be realized.

A fit human body is like a finely tuned engine. It enables one to perform to the maximum of his/her potential. Fitness is a condition gives one better look, and dynamic

and pleasant posture. More specifically, it is "the ability to perform daily tasks vigorously and alertly, with energy left over for enjoying leisure time activities and meeting emergency demands. It is the ability to endure, to bear up, to withstand stress, to carry on in circumstances where an unfit person could not continue, and is a major basis for good health and well being" **(Singh 1991).** Exercises produces biochemical changes in the cardio respiratory system and other important alterations in body composition such as proteins, carbohydrates, lipids and triglyceride levels **(Schathag et al., 2008).**

Fitness is one among integral half in our lifestyle activities; it provides ample time to reinforce our generation. Health is taken into account as an outcome to correct fitness and well-being management and applicable follow up in this direction. Since, the chronic diseases like diabetes, cardio-vascular morbidities, etc. area unit multi factorial in nature; it's going to be troublesome however ideal to grasp the assorted markers of those diseases. Physical well being has been emphasized much among all the scale of human well-being has been emphasized much among all the scale of human well-being and health. This significance to the present dimension could also be because of its emphatic impact of influence on the opposite dimensions of human health.

Maintaining correct fitness and life style is that the key in determinative optimum health and quality of life. With daily exercises, life style will be modified to enhance health. Totally different types of exercise target different systems of the chassis and enhance the operate of the actual system. Generic variety of fitness might not assure excellent health for a private, as there are many evidences in high level sporting situation, wherever high level fitness is important. Even the highest level sportsmen area unit liable to chronic morbidities and typically death. Hence, finding applicable variety of exercise has become a necessary requirement before any suggestion is passed on to the people.

Physical Fitness

Physical fitness has always been one of the foremost goals of physical education. The measurement of physical fitness and methods of developing fitness have been topics of national concern through the years. The medical doctors who constituted the early leadership in the profession were initially attracted to physical education because of their interest in physical fitness. It was mutual interest in physical fitness and

other physical measurements that prompted the meetings leading to the formation of our national organization, now known as the AAHPER. A great deal of credit must be given to the Turner societies in the 1800s for promoting an interest in the development and maintenance of physical fitness through gymnastic exercise programs. The Turners were namely German immigrants who had fled to the United states in the 1840s because of political pressures in Europe. Turner veins were established throughout much of the East and Midwest. These societies took advantage of every opportunity to sell their programs of gymnastics and physical fitness to the school. As a result of their efforts, gymnastics and developmental exercises made up the greater part of the physical education programs around the nation until the early 1900s.Increasing popularity of team games and lighter recreational type activities then began to crowd out the more formal physical developmental programs. The draft statistics in World War I brought national attention to be focused on a need for increased physical fitness of the American youth. Consequently, the states passed laws making physical education mandatory in the schools. The natural play movement spearheaded by wood and Hetherington and others brought about a decrease in emphasis on physical fitness in the 1920s and 1930s. Again, a world war generated national concern over the need for physical fitness. During World War II the Army, the Navy, and Air Force established their own physical fitness test batteries, and considerable research was done in this area. After the war the nation relaxed again only to be jarred awake by the starting results of the Kraus Weber test in which "American children were shown to be decidedly inferior to European children in this test of minimum muscular fitness. As a result, In 1956 President Eisenhower established the president's Council on youth Fitness, which was to focus national attention on the need for physical fitness programs in the schools. In 1958 the AAHPER Youth Fitness Test was developed for boys and girls (in grades five to twelve) with national norms.

"Physical fitness is the prime requisite to lead the optimum life and to live most and serve best. A sound mind and a sound body are man's most precious possession".

"Physical fitness is meant to improve the muscular performance of the human body. It can be useful for optimum performance in game. Fitness improves general health and it is essential for full and vigorous living" **(Alagesan, 2003)**.

The physical fitness is necessary to do any task, but at the very time, the mind also should have to be co-operative by means of psychosomatic adjustments to fulfill the particular task in an easy and efficient ways.

Physical fitness is an important phenomenon for any human being to lead a life of easy and comfort. Physical fitness develops the organic fitness. It means the efficient of organic system of the human body circulatory, respiratory systems etc.

The physical fitness is necessary to do any task, but at the very time, the mind also should have to be co-operative by means of psychosomatic adjustments to fulfill the particular task in an easy and efficient ways.

Physical fitness is the combination of strength, flexibility, agility, power, speed and endurance. It is only means of developing optimum level performance. **(PartricRouth 'O' Keefe, 1959)**

Physically Fit has various advantages

- Physically fitness increases the level of intelligence.
- Physical fitness makes the children more extroverts, social, dependable, tolerant, active and competitive. Children with low fitness are emotionally unstable and defensive.
- Physically fit children show better adaptability to stress, less neuromuscular tension and less fatigability.

Physically Fitness and Life Style Behavior

Regular active disciplined life style will enhance physically fitness. Balance diet, exercise, work, relaxation and sleep will make the person happy and energetic.

Physical fitness is a general concept with two specific components being the health-related physical fitness and the motor-related physical fitness. This study however is concerned with the health-related physical fitness levels of day and boarding boys in SHS in Cape Coast. "Health related physical fitness is defined by **(Corbin, Lindsey, Welk& Corbin, 2002)** as the body's ability to function efficiently and effectively without undue fatigue, and to enjoy leisure time, be healthy, resist hypo kinetic disease and meet emergency situations".

For some time now, there has been an increase in the awareness of being physically fit as a positive health habit that has a major impact on the wellness of every individual. There is now strong scientific evidence linking physical fitness, not only to better health but also to decreased medical cost, improved academic work and improved job productivity **(Robins, Powers & Burgers, 1994).**

Physical Activity

"Physical activity is associated with decreased risk of multiple serious health problems including cardio vascular disease. According to a report from the surgeon general of the United States, engaging in moderate amount of physical activity can substantially improve health and quality of life" **(US Department of health and human services, 1996)**

"Physical development objective of physical activity deals with the program of activities that build physical power in an individual by developing the various organic systems of the body. It results in the ability to sustain adaptive efforts, the ability to recover and the ability to resist fatigue" **(Howley and Franks 1997).**

Physical Activity Participation in moderate-intensity physical activity on a usual produces vital health edges, even though fitness levels don't increase. Enhancements in health edges rely upon the quantity (i.e., combination of frequency, intensity and duration) of physical activity. Alpha-lipoprotein will increase in response to endurance training. This response seems to be associated with the exercise training dose and is a smaller amount dramatic in girls than in men. Moderate –intensity (60% of vital sign reserve) walking program is as effective as a high intensity (80% of vital sign reserve) program up the alpha-lipoprotein profile of women as long because the total training volume is comparable.

Increasing daily physical activity and planned exercise contributes to health in many ways. Daily physical activity conjointly will increase the body's capability to try to work, that will increase the body's ability to fulfill daily physical wants and therefore the surprising demands of life and reduces strain to several body systems and organs, as well as the fourteen hearts. Moreover, the lot of physical activity one completes on daily basis the bigger one's daily energy expenditure also can assist in eight losses. Inflated daily physical activity or planned exercise might in some instance scale back

appetency whereas increasing basal rate, or the speed at that one's body expands energy whereas at rest. These physiological changes brought on by the rise daily physical activity is partially the explanation why exercise is related to reduces weight and fat. Reduced weight and reduced fat also are useful in reducing blood sterol values and in dynamic the method that sterol is carried within the blood.

Regular physical activity completely has an effect on the blood super molecule and compound protein profile. The scientific understanding is that physical activity or planned exercise completely alters blood lipid levels. However, total blood sterol isn't typically modified once exercise training unless weight is down or dietary composition is modified. What will happen is that the method sterol is carried by the blood compound protein sterol is found within the blood.

"An active lifestyle enhances the quality of life. An increase in total physical activity at low to moderate intensities is associated with a decrease in the risk of heart disease. Regular vigorous physical activity increases cardio-respiratory fitness" **(Feiring Williams 2000).**

"Physical activity is an important ingredient in the quality of life because it increases energy and promotes physical, mental and psychological well being in addition to conferring worthy health benefits. Regular physical activity helps prevent and delay premature development of a variety of major health problems".

Physical Activity and its Health Benefits

"The term 'physical activity' can mean many different things to different people. For public health professionals, it is a health enhancing behavior; others may see it as a phrase summing up a wide range of sports, leisure pursuit or active travel. But it is easy to forget that physical activity or human movement is actually one of the most basic human functions. According to Devries and House (1994), the human body evolved to move, and our physiological systems are continuously working to balance the energy we expend through physical activity with the energy we take in as food. A century ago, obesity was rare, as people spent far more energy in manual work and walked more for transport, and energy-dense food was less easily available" **(Canadian population Health Initiative, 2002).**

"However, in the twenty-first century, our lifestyles have changed beyond all recognition: So much physical activity has been removed from our lives that we have at last discovered how essential it is to human health and well-being. It remains the foundation of our health throughout life. The first steps a baby takes mark a critical milestone in that child's development, as it sets off toddling into the world. Throughout childhood. Physical activity offers opportunities to develop basic motor skills that are essential for healthy active living. As we enter old age, physical activity becomes a critical component of a healthy, happy and independence life. Physical fitness is a related construct and it is also often assumed that the more habitually active are fitter and that the relationship is casual" **(Corbin et al., 2002; Livingstone, 1994).**

One reason that Physical Activity is so helpful in preventing and treating various conditions is that it helps people control their weight. Over weight, obesity and malnutrition are implicated in numerous states of ill health. These conditions are also related to the amount of cholesterol in the blood (serum cholesterol), which can stop up supply routes prompting the heart or brain, subsequently bringing about a heart attack or stroke. Some cholesterol, however, is helpful because it picks up blood fats and deposits them outside the body. This good cholesterol is called high-density lipoprotein (HDL). Exercise increases the amount of HDL in the blood **(shepard, 1989)** and decreases the amount of bad cholesterol (low-density lipoprotein [ldl]) that accumulates on the blood vessel walls and can eventually block the flow of blood to the heart and other body parts.

Strength

"Strength can be defined as the maximum force produced by a muscle or muscles at any given speed. Power is the products of force (strength) and velocity (speed). A number of sports would appear to be dependent upon high levels of strength and muscular power for success. Man has sought strength since antiquity. A315-lbs block of red sand stone found is Olympia had a 6^{th} century inscription starting that a bison, using only one hand, there it over his head even there, the sorts of weight lifting was approached systematically. Milo of croton lifted a bull-calf daily until it was fully grown, and was eventually able to carry the bull around the stadium. The genetic potential of strength development is determined before birth. All individuals are not

made from the same physical mould. Therefore all individuals are not capable of lifting the same amount of weight" **(Gardiver, 1930).**

Muscular Endurance

"Muscular endurance is very important for people playing sports and who have to sustain an activity for long periods of time. Muscular endurance is determined by how well your slow twitch muscle fibers are, I will explain. There are generally two types of muscles fibers in your body, slow twitch and fast twitch. Slow twitch muscle fibers cannot exert as much force as fast twitch, but can sustain an effort over a much greater period of time. Fast twitch muscle fibers can exert as much force as fast twitch, but can sustain an effort over a much greater period of time. Fast twitch muscle fibers can exert a greater amount of force but for a very limited amount of time. Therefore, slow twitch equals endurance, while fast twitch equals strength. It is important to pay attention to muscular endurance if you play any sort of sports, or involved in any sort of physical activity that's lasts for quite a while. For example, such sports as hockey, football, tennis, etc. Another activity that is very dependent on muscular endurance is cross country running, in fact it is probably the best example of muscular endurance, as it involves very little muscular strength or flexibility".

Agility

"Agility is generally defined as the ability to change the direction quickly and effectively while moving as nearly as possible at full speed. It is depended primarily on strength, reaction time, speed of movement and specific muscle co-ordination".

"Agility is the ability to change body position rapidly and accurately without losing balance. It is important in sports and activities in which opponents or obstacles have to be avoided (e.g. slalom events). It is a basic component of physical fitness. Although its exact nature has not been determined, it depends on muscular power, Reaction time, co-ordination and dynamic flexibility".

"Agility is the main components of the physical fitness. Agility is the ability of a man to coordinate his movements and synchronize them according to the requirement of changing condition in fast start and quick change in direction are fundamental to good performance practically in all team game such as basket ball, volleyball, tennis, badminton, kabbadi, Kho-Kho, soccer cricket etc".

Explosive power

"Explosive power mainly depends on strong muscle. The abdominal and leg strength play a vital role on a performance of jumpers. In order to develop the abdominal and leg strength, jumping exercise play a major role. Explosive power represents one of the most important features of track and field. Only the energetic aspect of substrate utilization represents the biological basis, as many investigators believe. Indeed, the most peculiar factors for explosive power development must be formed in neuro-muscular properties".

Explosive power can be increased, either by increasing the amount of work or by decreasing the amount of time. Throwing and jumping events, serving in tennis are some of the sticking examples for power.

Speed

"Speed can be improved by strengthen the muscles **(Akgun, 1996)**. According to **Bompa (1994),** one of the most important bio motor abilities requires in sports is speed or move very quickly or capacity to travel. From the mechanical point of view speed express through ratio between pace and time. The speed included with three components [i] reaction time [ii] frequency of movement per time unit [iii] speed travel over a given distance."

Cardio Respiratory Endurance

"Cardio Respiratory efficiency is the most important health component of physical fitness. It involves the interaction of four physiological functions – respiratory, central circulation, peripheral circulation and muscle metabolism. According to American college of sports Medicine (ACSM), the minimum amount of exercises for cardio-respiratory of aerobic fitness is an intensity level of 60 to 90 percent of the heart rate reserve, for a duration of 15 to 60 Minutes, at a frequency of 3 to 4 times per week. Recent research has revealed that lower levels, 45 to 50 percent, may also be effective, particularly in individuals with poor levels of physical fitness". **(William 1990).**

The estimation of function capacity of the cardio-vascular and pulmonary systems is base on the objective measurement of certain well known physiological parameters. The chief of these are heart rate and rhythm, blood pressure, vital capacity,

maximum expiratory pressure, maximum respiratory breath holding and gas analysis. Various formulae are available to incorporate the data into working scores for field and clinical use. These vary from the cardio – pulmonary index which employs only seven parameters, to the cureton table which utilizes over hundred. **(Encyclopedia 1971)**

Objectives of the Study

- The main objective of the study was to find out the status of physical fitness among Tribal school boys of Kurnool District of Andhra Pradesh.
- To prepare physical fitness norms for Tribal School Boys.
- To compare the physical fitness status between Tribal and Non-Tribal school boys of Kurnool District of Andhra Pradesh.
- Further to find the influence of physical activities programme on physical fitness variables.
- To find out latent talent identification among the Tribal school boys.
- To bring awareness about the importance of physical fitness among Tribal school boys of Kurnool District of Andhra Pradesh.

Statement of the Problem

The purpose of the study was to find out the Status of Physical Fitness among Tribal School boys of Kurnool District of Andhra Pradesh and to find out the influence of Physical activities programme on them.

Hypothesis

- It was hypothesized that there would be a significant difference on physical fitness variables among different (13 to 15 years) age group of Tribal school boys.
- It was hypothesized that there would be a significant difference on Physical fitness variables between Tribal School boys and Non-Tribal School boys.
- It was hypothesized that there would be a significant improvement on physical fitness variables due to influence of physical activities programme.

Delimitations

The study was delimited in the following aspects.

- The study was delimited to the Tribal school boys studying from eighth standard to tenth standard in the Kurnool District of Andhra Pradesh.
- The age of the subjects were ranged from 13 to 15 years.
- The study was considered 786 Tribal school boys belonging to Nine Tribal schools in Kurnool District of Andhra Pradesh.
- AAHPER Youth Fitness Test has been used as a measure of physical fitness variables.
- 60 subjects were delimited to study the influence of physical activities programme.
- The subjects were delimited into two groups. Each group consist of 30 subjects namely Physical Activities Group and Control Group.
- Physical activities programme was delimited only 12 weeks.

Limitations

The study has the following limitations:

- The investigator did not consider humidity, temperature and other environmental conditions, which could have certain effect on the performance of the subjects.
- The subjects previous exposure to physical activities, sports training, level of participants that might have certain effect on selected variables but not taken in to account in the study were considered as the limitations of the study.
- Not considering Heredity which may contribute to physical, physiological and psychological efficiency was noted as a limitation to this study.
- General activity, levels of motivation of the subjects were beyond the control of the researcher.

Significance of the Study

The present study will be significant in the following ways:

- This study provides opportunity to find out the status of Physical fitness of Tribal school boys.
- The computed physical fitness norms may use as a manual and guide for school boys and to find out their fitness level periodically.
- This study would be beneficial and useful as it can be use as a foundation for a proper and systematic physical education programme for the Tribal school boys.
- The result can be used by the coaches and physical education teachers to select latent talent school boys for sports activities.
- This study is extremely useful in planning and designing our educational curriculum.
- This research may be helpful to suggest ways and means for improving better fitness through special type of physical exercise for Tribal school boys.
- The study may help the physical educators, sportsperson, and scholars to conduct further research in this area.
- This study gives an additional knowledge to the area of research.

Definitions of the terms

Survey

Best (1977) says that**"**The survey method gathers data from a relatively large number of cases at a particular time. It is not concerned with characteristics of individuals as individuals. It is concerned with the Generalized statistics that result when data are abstracted for number of Individual cases"

Education

According to **Gandhiji,** "By EDUCATION, I mean an all round drawing out of the best in child and man- body, mind and spirit". Education is the modification of behavior according to the socially desirable way in to fullest extent by which one can able to cope with the changing situation".

Physical Education

"Physical Education as an integral part of total education process which has its aim to the development of physically, mentally, emotionally and social fit citizen though the medium of physical activity which have been selected with a view to realizing their outcomes". **(Bucher 1975)**

Norms

"According to **Barrow and McGee**, **(1979)** a norm is a scale that permits conversion from a raw score to a score capable of comparisons and interpretations."

Scheduled Tribes

According to **Mishra (2002**) "Scheduled tribe are the indigenous to the soil that inhabits the forest and hilly regions. It is divided into four type i.e. hunting-gathering group, agricultural group, irrigation-agricultural group, and industrial wage earning group".

Fitness

"Fitness is a state, which characterizes the degree to which the person is able to function. Ability to function depends upon the physical, mental, emotional, social and spiritual components of fitness, all of which is related to each other and is mutually interdependent. This is also referred to as total fitness".**(Reuben, 1971).**

Physical Fitness

"Physical fitness as the capacity of an individual to perform givenphysical takes involving muscular effort.(**Mathews 1973).**"

Physical Activity

"Physical activities help a man achieve high degree of physical conditioning. In schools there is a compulsory physical activities programme for all boys and girls. So, it would be interesting to find out which of the components have better physical fitness. There are many physical fitness tests to evaluate the ability of the students to carry out daily tasks without undue fatigue".

Strength

"Strength is the capacity of the whole body or of any of its parts to exert force". (**Barrow and McGee 1979)**

Endurance

"Endurance is basic in measuring organic capacity believing that if one is able to run or swim more than the normal distance without undue fatigue he is in good physical conditions". **(Clarke 1967).**

Agility

Agility as "a rapid whole body movement with change of velocity or direction in response to a stimulus"**(Sheppard and Young, 2006).**

Power

"The capacity of the leg to release maximum muscular force in the shortest times as in executing a vertical jump broad jump" **(Baumgartner and Jackson 1987).**

Speed

"It is the performance prerequisite to do motor actions under given conditions minimum of time". **(Hardayalsingh, 1991)**

Cardio-Respiratory Endurance

"It is identified as the most important component in health-related fitness, cardio-vascular endurance is the ability of the heart, lungs and vascular system to function efficiently for an extended period of time. Directly related to this function is physical working capacity. A heart and circulatory system that is functioning at a higher level, thus delivering more blood, is also making more O2 available for working muscles. This process increases the child's ability to work at a greater intensity and over longer period of time without debilitating fatigue. (**Thaxton1988),**"

CHAPTER – II

REVIEW OF RELATED LITERATURE

The studyof the relevant literature is an essential step to get a full picture of what has been done with regard to the problem under study. Such a review brings new insight and helps the development of research procedure. The investigator has gathered the related studies from research quarterly, journals, magazines and thesis and has listed down such studies in this chapter to add further dimensions and scope for this study. The present review is based upon the available literature in respect to the study under investigator has accessed. All the relevant literature thus obtained by the researcher has been segmented into different heads that are most relevant to this study and presented in this chapter to furnish necessary back ground materials to evaluate the significance of the study.

The related literatures were broadly classified into the following three categories:

1. Studies related on Survey of physical fitness, health related physical fitness and Normative studies.
2. Studies related on comparative studies.
3. Studies related on Physical Activities programme.

1. Studies related on Survey of physical fitness, health related physical fitnessand Normative Studies:

Central Advisory Board of Physical Education and Recreation (1954) prepared suitable test for boys and girls separately according to the age group such as 10 to 12 years for boys 50 meters Run, High Jump, Long Jump and Cricket ball Throw. For girls 50 meters Run, Skipping for 30 sec, Ball Bouncing-30 sec, Cricket ball throw and Sit-ups (1 minute). For the age group 13-17yearsfor boys, 100 meters Run, High Jump, Long Jump, Cricket ball Throw and Chin ups, Dands and Baithaks. For girls 100 meters Run, Long Jump, Cricket Ball Throw and Sit-Ups – 30 Sec.

The Central Board of Secondary Education and Recreation prepared a battery of test namely “A” of National Physical Efficiency Drive (NPED) as a standard test for

evaluating physical fitness in classes 9than 10th in the schools under the local Norms (1980).

Thomas constructed a Madras Physical Efficiency Test and Norms to assess the secondary school boys physical ability. Joseph also constructed a Norms to assess the physical fitness status for boys**(Authors Guide).**

Moorthy (1982) attempt to conducted survey of minimum muscular strength for school boys and girls in the age group of 6 to 11 years. For the purpose of the investigator selected one thousand school children both boys and girls. Further the investigator selected 90 boys and 90 girls at random. To assess the impact of physical exercise and yogic exercise on selected minimum muscular fitness variables. The data were collected before and after the exercise programme. The result of the study showed that yogic exercise group significantly improved than the physical exercise group on minimum muscular strength.

Rajaguru (1990)organized a survey study on Health Related Physical Fitness variables, 4618 subjects involved in this study. Based on the data the subjects divided into three grades such as average, below average and above average. The below average boys underwent weight training programme. The study revealed that weight training programme improved significantly all the health related physical fitness variables.

Suresh (1993) conducted a "survey study on Health Related Physical Fitness among 1028 school boys between 14 to 16 years in Karnataka State." The investigator analysed the influence of family area (rural and urban).It was found that there was a significant differences between rural and urban school boys in Muscular Endurance and cardio vascular endurance. Whereas in the case of flexibility, abdominal muscular strength, speed and agility not exist significant difference between Rural and Urban.

Joseph James (1990) taken a keen interest to analyse the status of physical fitness among KendriyaVidyalaya School boys in Keral State. The investigator collected data using AAHPER Youth Fitness fitnessabout 3500 school boys age between 11 – 16 years. The data were analysed and prepared the Norms. Further to find out the influence of hollow sprints and acceleration sprints for the period of twelve weeks. The data were collected before and after the treatment and analysed by using the analysis of covariance. The study revealed that both the groups statistically improved

the physical fitness variables at the sametime hollow sprint training was better than the acceleration sprints training. Further the study reveals that physical fitness level is not same among the age group of 11 to 16 years.

Butt and Pahnos (1992) conducted a survey of multicultural education courses in schools of higher education that offer Degree programmes in physical education. Multicultural education and acquisition of intercultural skills are becoming a necessity for effective societal functioning. Over the past three decades the literature has accentuated the need for a multicultural perspective in all areas of education.

Kohali and Dureha (1995) conducted a survey of postural defects in elementary school children in India. For this study the whole population of the elementary section of different schools of India was taken as subjects for this study. The survey method was used to spot testing and observations for the detection of defects. The tests used were for detection knock knee kiputh method of test were used for detection kyphosis for pedograph, aligometer for lordosis and plumb line test for scoliosis.

Murugavel (1989) conducted a "survey of minimum muscular strength of high school boys" in Madurai Quaid-E-Millet, Ramanthapuram, pasumponThevarThirumagan District and the influence of Exercises on them. For this purpose 2000 boys age ranging from 11 to 15 years from above said districts were randomly selected as subjects. Kraus weber Minimum muscular fitness was used to collect the data.1. Abdominal plus-A+ 2.Abdominal minus –A- 3.Psoas and lower 4.Upper back –UB 5.Lower back-LB 6.Length of back and Hamstring muscles-BH.

Sharma Singh and Singh (2014) conducted a study on constructing of "Norms for selected physical fitness test battery as a gauge for sports potential among Kabaddi players." The aim of this study is to build standards as a gauge for sporting capabilities in kabaddi players for optimal physical fitness test battery. For the current study, sixty (N=60), male kabaddi players between 18-25 years of age of the Punjab University, Patiala volunteered. Muscular strength was measured by using the technique of the Dynamometer, muscle power was measured by using the technique of the vertical jump test, running speed was measured by using the technique of the 20 meters dash test, agility was measured by using the technique of the Illions agility test, jumping abilities was measured by using the technique of the standing long jump, Throwing ability was

measured by using the technique of the overhead Medicine Ball Throw Test, Flexibility was measured by using the technique of the Sit and Reach Test and Balance was measured by using the technique of the Stork Balance Stand Test. In order to prepared the norms, they used percentile Scale. The researcher prepared into based on Standard Deviation. Furthermore, the score are divided into five grades, which are very good, good, average, poor and very poor.

Sirijaruwonga and Kosa (2014)"Constructed a Health Related Physical Fitness Norms for Students of Rajamangal University of Technology Thanyaburi."To achieve the purpose of the study 410 males and 460 female students were selected at random during the academic year 2006. The AAHPERD Health-Related Physical Fitness Test namely of three components: Sit and Reach, one minute sit ups, 1.5 mile run/walk and ACSM fitness test which contains the body mass index. The data werecollected and analysed by the Descriptive statistic. Based on the Mean and Standard Deviation the performance were classified into five categories for both male and female such as Excellent, Good, Moderate, Low and Poor.

Prakash and Uppal (2012)made an attempt to prepare a important fitness variables for school going boys. To achieve the purpose of thisstudy 180 sports school boys were selected.Physical Fitness Standards and norms changes between places, regions, locations, Eating Habits etc. One country's Physical Fitness standard might not match with another country. This research was conducted keeping in the mind the Indian school boys. Thirty two physical fitness components have been prioritized or expressed through the examination of the physical fitness components and expert judgment in physical education. These tests were conducted for one eighty high school sports boys, who participated in their relevant school and Taluk level sports competitions. The main factor of this data is to compute the analysis using SPSS software. Factor analytical results are available as seven factors, which account for a 69.3 percent share of the total data in the data set. The six test items of physical fitness have been observed, with the main part of muscle strength (34.0 percent of total variance) emerging as physical fitness. A test battery of six items was developed by considering the rotational factor loads, reliability and objectivity of the test variables. Constructive testing is the speed of limb factors of muscle strength, muscle endurance, agility and explosive strength of high school boys.

Mohite (2011)prepared "physical fitness norms for junior college women in BarshiTaluka."Through this study the players knows the performance level. The investigator used AAHPER Youth Fitness test namely 1. Push Up 2. Bent Knee Sit-Ups 3.Standing Broad Jump 4.50 mtr running 5.40 mtr Shuttle Run 6.600 mtr Run/Walk. The new set of norms was constructed by using the T scale technique and given in the score were T scale norms. The study resulted in appropriate criteria for assessing the participants performance through the selected physical fitness test. The junior college of Barshitaluka is set up in terms of the girls physical fitness, Which can be used to assimilate students in these subjects in the essential program of physical education in the curriculum.

Datta and Purshvani (2010) studied to "construct the norms for evaluating performance of players in Table Tennis Skill Test."To achieve the purpose of this study 1632 students National level Table Tennis players were selected at random. Norms were prepared for such as Percentile and 7 Sigma scale were selected Table Tennis Skill Test namely stepping with alternative push test, Target Service Test, Alternative Counter Test and Fore Hand Drive on Target Test and also prepared Grades such as Very Poor, Poor, Average, Good and Very Good based on Normal distribution.

Yadav (2002) developed a specific physical fitness test battery and constructed norms for National level male judokas players with a sample of 200 judokas who represent different States and Paramilitary forces of Northern India. This study has two steps. In the first phase, 22 Test items were administered in 160 judokas players of National players before their main competition. The test battery has prepared six components namely the Right Hand Grip Strength, Sit and Reach, Sit Ups, 30 meter run, Long jump and pull-ups scientific validity. In the second phase, norms were constructed with the help of established test on 200 male judokas namely T-Scale, Hull Scale and Sigma Scale..

Guleria (2007) developed athletic norms for senior secondary school boys and girls students of Himachal Pradesh. 2400 subjects 1200 boys and 1200 girls with the age of 17+ and 18+ were selected in 48 senior secondary schools. Selected athletic events are considered for this study according to the syllabus of the Himachal Pradesh School Education Board for XI and XII. Performances of subjects were used to construct norms in athletic events. The scores obtained from the subjects have been

converted to the Z scores, T scores, percentage and Sigma Scale for construction of norms.

Kumar (1998) made a study to evolve "physical fitness norms on various items of Fleishman's fitness battery for high and higher secondary male students of Himachal Pradesh." 3,840 students from urban and rural areas were randomly chosen for the study and the age of the students aged between 13 to 16 years boys. The outcome of the study indicated that there are significant differences among the age groupsin almost all fitness variables. The boys aged 16 years have been better off from 15 years boys to 13 years boys. 15 years boys are better than boys 14 years and 13 years boys. Similarly, 14 years boys were superior than 13 years boys in all the components of Fleishman's test battery. The result of the study revealed that male subjects who came from rural background were significantly superior than the subjects who came from urban background in the six test of physical fitness components of Fleishman's test battery.

2. Studies Related on Comparative Studies:

Poddar and Subramaniam (2016) conductedanExperimental studyon influence of Yogic and Physical Exercise of West Bengal Tribal School Boys. Three groups are experimental group and one is control group. Data were collected before and after experimental treatmentThat different exercisesprogramme.The study revealed that experimental treatment improved physical and physiological variables such as agility and lung volume due to twelve weeks of exerciseprogramme.

Ajay Kumar and Agashe (2015)conducted a study to analyses the percent body fat of tribal and non-tribal male hockey players of Chattisgarh. The study was conducted by 50 tribal origin male hockey players (average age 21.67 years) and 50 non-tribal origin male hockey players (aged 22.34 years) from Chattisgarh were selected as sample. The scope for selection of contests involved the inter-collegiate hockey tournament inChattishgarh. Omron body fat analysis was used to estimate body fat in the selected subjects. Tribal male hockey players showed that the body fat percentage was higher than the non-tribal male hockey players and percentage of body fat of tribal male hockey players was less than 8-15% of body fat. Tribal male hockey players have the ideal percentage of body fat when compared to non-tribal male hockey players.

Meena et al., (2012)taken a study to "compare Health Related Physical Fitness variables between Tribal and Non-Tribal players." For the purpose of this study 100 Tribal and 100 Non-Tribal players were select in Rajasthan at Inter Collegiate level. Data were collected ananalysed using the Descriptive statisticsand 't' test . The results of the study showed that Tribal players are higher in strength, endurance, speed and co-ordinate ability than the non-tribal players, however there is no significant differences exists between Tribal and Non-Tribal players on flexibility.

Saha and Haldar (2012)analysed about the "health related physical fitness variables between urban and rural school going boys." For the purpose of the study 500 rural and 500 urban school boys age between 13 to 17 years were selected random from West Bengal. They were tested health related physical fitness variables. The result of the study reveal that rural boys are better than the urban boys both in health related physical fitness and Psychomotor ability.

Albarwani (2009) compare the child obesity (over weight) as well as fitness levels between Kenyan and Canadian children based on the environmental condition such as rural and urban. For the purpose of this study 529 subjects were selected (245 males and 284 females) their age ranged from 15-16 years. Maximal aerobic capacities (Vo_2 Max) Body Mass Index were estimated 20 meter Shuttle Run and Body Mass Index. The study revealed that urban boys and girls were significantly higher in Body Mass Index and Vo2 Max than that of rural boys and girls. It was found that urban school boys and girls not taking part in sports activities.

Gill (2010)conducted a study to compare physical fitness between rural and urban Women. For the purpose of the study 25 rural and 25 urban Women were selected and compared physical fitness variables such as strength, endurance, flexibility, agility and speed. This study reveals that rural women found to be significant in strength, endurance, flexibility, agility and speed than the urban women.

Pena et al., (2003) evaluated a study between rural and urban school children. For this purpose nearly 355 rural school children were selected (175 boys and 184 girls) in Oaxaca, South Mexio and 324 urban school children (163 boys and 161 girls) their age between 6-13 years. Data were collected from both group admini bring the Health Related Physical Fitness and Performance related physical fitness variables. The result of the study showed that

* Not found any significant difference in grip strength and endurance between rural children and urban.

* Body size and strength was greater in rural children.

* Explosive Power and abdominal muscular strength and endurance significant higher in urban when compared with rural children.

* Speed performance variable between rural and urban in both age and sex.

Tinazci et al., (2009) conducted a study to compare the physical fitness between rural and urban children in North Cyprus. For the purpose of this study 3939 subjects were selected in 90 schools in North Cyprus. Eurofit test was conducted. The results of the study showed Body Mass Index and Skin fold thickness were higher in urban school children. Differences were found between rural and school children in cardiopulmonary and motor fitness. Further it showed that flexibility and muscular endurance higher in rural children when compare with urban school children. Finally the study reveals that flexibility, muscular endurance and strength found significantly lower among urban children. This may be found that lower physical activity level.

Aboshkar et al., (2012) compared the study on "relation between Health related physical fitness, Physical Activity and BMI among children in Selangor, Malaysia." The aim of the study was to examine the association among health related physical fitness (HRF), Physical Activity (PA) and BMI among children in Malaysia. PA was measured and classified by three levels based on checklist questions. 918 students were used as a sample to measure Anthropology and HRF. BMI is computed and classified into underweight, normal, overweight/obesity. The results of the study reveal that more boys than girls are less weight and overweight (14.8% vs 12.4%), (28.8% vs 19.4%). Boys perform significantly ($P<0.000$) better than girls in all Health Related Physical Fitness except for the sit and reach. All HRF tests have been associated with each other in boys and girls, but the BMI is weekly sit and reach in the boys, sit and reach, and sit-ups girls. Performances of boys and girls in all HRF tests ranges from normal weight to overweight/obese shows ($P<0.05$) for the trend. Overweight/underweight children had poorer performance in HRF than normal weight children. However, Higher PA levels of overweight and underweight children are better in HRF tests than the low PA levels.

Toriola and Monyeki (2012) Studied on "health related fitness, body composition and physical activity status among adolescent learners." Physical inactivity (PI) is the real reason for overweight and obesity in children and adolescents. Hence, the PI related on risk factors for cardiovascular disease. Studies in 14 years are particularly low in adolescents. The reason for this study is to include health related physical fitness (HRPF), body composition and physical activity (PA) status in adolescents. A total of 283 adolescent students (111 boys and 172 girls) with the mean of 14.90± 0.72 years from the physical Activity Health Longitudinal Study (PAHLS) have been members in the investigation. The body composition is estimated and maintained by the HRPF'S standard procedures using the European Society for the International Society for the Advancement of Kinanthropometry (ISAK), International Physical Activity Questionnaire (IPAQ) using Eurofit protocol test and PA levels. The result revealed that on average, boys (165.41 ± 9.55 cm) were greatly improved than girls (157.88 ± 6.94 cm) (P<0.000). The BMI (21.43 ± 4.37 kg/m^2) contains little higher than girls (20.01± 3.71kg/m^2) (p=0.002). At the point when students classify the BMI score, the girls are overweight (32.4%) contrasted to boys (17.1%). In addition, girls (percentage body fat 26.01 ± 8.51) are significantly better than the boys (13,19± 8.56)(P<0.000). More girls (19%) than of boys (16%) saw TV over than 3 hours a every day. A total of 85 (30%), 78 (27.5%) and 88 (31.1%) of adolescent students have low, moderate and high Physical Activity involvement.

Dutt (2005) investigated on "health related physical fitness of boys aged 8 to 18 years."The subjects consist of 797 male children belonging to Punjab. The selected health related physical fitness variables such as cardio vascular endurance, muscular strength, endurance, flexibility, and body composition were administered. The result of the study indicates that poor level of Vo2 max in boys and the upper body area muscles such as Triceps, Deloid, and Pectorial greatly improved. The muscular strength and endurance than the muscles of the abdominal, hip and leg areas. This may be due to the influence of life style habits and physical exercises improved muscular strength and attractive physical appearance too. Further its reveals that the percentage of body fat falls in health zone. In any case boys age percentage of the study shows after age 14 shows a sharp increase in body fat, which lasts for 17 years.

3. Studies Related on Physical Activities Programme:

Powell et al., (2009) conducted a study to find out the influence of PhysicalActivities an epidemic of Obesity. For the purpose of the study state wise probability sample were selected from fifth to seventh grade students. The study reveals that physical inactivity group studies inactivity reduce the health related physical fitness components. Data were collected among the children from moderate to vigorous physical activities.

Hastie et al., (2010) conducted a study to find out the aerobic fitness level among Russian children and rural American children out of school physical activities programme. 415 school children were selected between the age group of ten to eleven years and they conducted '15 minutes progressive aerobic cardio vascular endurance run (PACER) fitness test." The data were collected and analysed those who are entire into the healthy fitness zone were interviewed regarding their physical activities programme out of school participation. The result of study showed that Russian Children achieved higher score than the rural American Children and made score higher than the female for both countries. The result of the study clearly indicated that in after school physical activity participation influenced to achieve higher level to aerobic fitness level.

Aires, Mendona et al., (2010) conducted a "longitudinal study to find out the impact of Physical Activity Index, Physical Fitness and Socio-economic Status on BMI." For the purpose of this study nearly 345students were selected in the age group 11 and 16 years and conducted fitness gram battery test. The results of the study showed that there was a remarkable relationship among Physical Activity Index (less and active) and lower fitness levels and also risk due to overweight and obesity particularly Cardio Respiratory Fitness and Abdominal strength.

Berntsen et al., (2010)conducted a study that is physical activities play Vital role. Decreased the physical activities programme changes were taken in aerobic fitness level as well as body composition. To achieve the purpose of the study sixth overweight/Obese.Adolescents were randomly. Physical activitiesprogramme were conducted for 5 months and data were collected before and after the activities programme. The aerobic fitness and body composition.The results of the study showed

that significantly reduce the overweight and there was no changes in aerobic fitness level.

Vimaleswara et al., (2010) conducted a study to find out the reason for obesity either the Phosphoenolpyruvatecarboxykinase – 1 (PCK1) or high level of Physical Activity (PA). For the purpose of this study 958 boys and 1104 girls were selected from Danish and Estonian children. The results of the study showed that none of the Phosphoenolpyruvatecarboxykinase – 1 (PCK1) were significantly related with waist circumference, Body Mass Index and sum of four skin fold, Physical Activity and Fitness.

Aires, Silva (2010) conducted a study to find out the association among cardio respiratory fitness (CRF) Body Mass Index (BMI) and level of physical activity programme. For the purpose of the study 111 students was selected at random. Their age ranged from 11 to 18 years. Data were collected and analyzed. The result of the study showed that there is no significant relationship exists between levels of Physical Activity.

Gaya et al., (2009) conducted a study to find out the relationship among elevated blood pressure, Body Mass Index (BMI), Cardio Respiratory Fitness and reduced Physical Activities Programme. For the purpose of this study 66 boys and 97 girls were selected. The data was calculated and analysed by way of cross sectional. The study showed that Body Mass Indexand sedentary activities were inversely related with Systolic Blood Pressure (SBP) and also revealed that moderate Physical Activities Programme positively correlated with Systolic Blood Pressure, Body Mass Index.

Bilinski et al., (2005) conducted a study that the amount of physical activity required to achieve optimal health benefits of school children out of school physical activities programme and physical activities programme in school. This study reveals that there was no statistically significant association between the children's physical activity and their participation in physical activities in school. But the study suggest that out of school physical activities enough for health benefits the factors assist such as families, communities, schools and health professionals in promoting physical activity in this population.

Shamli (2010) conducted a study to measure " the physical activity and physiological conducted a fitness (cardiovascular fitness, body composition, flexibility, muscle strength and endurance) of 10'" grade male students in the AI-Dhahirah region, Sultanate of Oman." The results showed significant difference in body fat percentage (p = 0.04), muscle endurance (p = 0.00), and cardiovascular endurance (p = 0.0 I) between participation in sports activities and physiological fitness components for the overall sample. The study recommends that a concerted effort be made by all parents, teachers, school administrators and the community to improve the general physical fitness of students on the whole.

Baquet et al (2009) conducted a study "analyse the effects of a high intensity aerobic training program on different components of physical fitness in adolescents aged 11 to 16 years."The result of the study revealed that significant influence on standing broad jump (2.9% $p<0.05$, F= 4.85), 20 meter shuttle run (3.8%, p,0.001, F = 23.21) and on the maximal distance covered over 7 min (7.6 % $p<0.001$, F=14.48). For Control group there was no improvement in EUROFIT performances. It was concluded that training at high intensity improves not only children's aerobic fitness but also performance of standing broad jump. Well monitored, adequate intensivetraining is necessary for a more desirable functional development.

Farpour et al., (2009) conducted a study to find out the influence of Physical Activity on Systolic Blood Pressure of pre-pubertal obese children. For the purpose 44 pre-pubertal obese children were selected their group 10 to 11 years. They were divided into two groups namely exercise group (N=22) and control Group (N=22) .Further the investigator selected N=22 lean children. The exercises were given 60 minutes 3 times/week for the period of 3 months to the two experimental group and control group not participate any activities. The data were collected before and after exercise treatment and analysed. The research of the study showed that the regular physical activities programme reduced Blood Pressure, Arterial Stiffness and Abdominal fat and increase Cardio Respiratory Fitness for the children.

Collard et al., (2009)find that physical activities may vital role presentation of injuries. This physical activities programmecoordinative ability and balance when we doing our day to day activities.

Haga (2009) also recommended in his study that less physical activities leads less motor fitness competence.

Dobbins et al., (2009) contribution his study that 19 miilions of death throughout the word related to physical in activity. It leads chronic disease such as diabetics and coronary heart disease.

Herman et al., (2009) evaluated the 1981 Canadian fitness survey in relation to BMI and Leisure-time Physical Activity and Energy expenditure. The investigator analysed from youth to adulthood such as inter-age correlations. This study reveals that the BMI Status was moderate to strong (r = 0.420.65) in females and moderate (r=0.290.53) in males. That is 38% higher level and 42% lowest level of BMI quintiles during the youth periods remaining quintiles in these an adult.

BirukHundito et al., (2013) investigated that "The benefits of physical activities for chronic disease." This study revealed clearly that due to the inactivity the ratio of death increasing day by day through various chronic diseases. So the physical activities programme play a vital role to prevent such a disease in future and also this study reveals that due to the lack of economic and social awareness physical activity and exercise are primary intervention to control chronic diseases such as Cardio Vascular disease, Type –II Diabetes, Obesity, and Cancer for youth and adults.

CHAPTER-III

METHODOLOGY

In this chapter the procedure adopted for the selection of subjects, selection of variables, selection of tests, pilot study, reliability of the data, test competency and reliability of test, instrument reliability, subject reliability, orientation of the subjects, collection of data, experimental design, administration of tests and statistical technique were presented.

Selection of subjects

The aim of the study was to survey of physical fitness among Tribal school boys of Kurnool district of Andhra Pradesh and the influence of physical activities programme on them. For the purpose of this study 800 Tribal school boys were selected as subjects out of 1388 Tribal school boys in Nine Tribal schools in Kurnool District of Andhra Pradesh. Their age range from 13- 15 years. Out of 800 subjects 14 subjects were not able to complete the test due to their illness. So finally 786 subjects were participated in the Physical Fitness tests.

In order to ensure full co-operation from the subjects, the scholar had a brief meeting with the respective heads of Institutions and physical education teachers. The requirements for the study were explained to all the subjects in the presence of their physical education teachers and all the subjects voluntarily agreed to undergo the prescribed tests.Physically handicapped boys were not included as subjects.

The age wise break – up of students is presented in Table - I

Table - I

Sl.No	Years (Age Group)	Number of students
1	13	260
2	14	270
3	15	256

Further to find out the influence of Physical Activities Programme on selected physical fitness variables. Sixty Tribal school boys were selected as subjects at random from Govt. Schedule Tribal Ashram High School, Alur, Kurnool District of Andhra Pradesh. Their age ranged from 13 to 15 years. The subjects were divided into two groups namely experimental group and control group each group consists of 30 subjects. Experimental group underwent Physical Activities programmes for the period of twelve weeks, whereas Control group did not participate any specific physical activities programme other than their regular activities programme as per their school curriculum. The data were collected before and after the experimental period on Shoulder Muscular Strength and Endurance, Abdominal Muscular Strength and Endurance, Agility, Explosive Power, Speed and Cardio Respiratory Endurance. The obtained data from experimental group and control group were statistically analyzed with analysis of covariance (Ancova). All the subjects were hostlers, attended for programme 6.30 am. to 7.15 am. The subjects assured the voluntary participation during the experimental treatment.

Selection of Variables

Taking into consideration the feasibility criteria availability of instrument and the relevance of variables to the present study the following variables were selected.

Dependent variables

Physical fitness variables

1. Strength
2. Endurance
3. Agility
4. Explosive power
5. Speed
6. Cardio respiratory endurance.

Independent variables

Physical Activities Programme:

- Calisthenics Exercises,Dumb-bells exercises, Indian Club Exercises,Hoop Exercises, Flower stick Exercises, Dands and Baithaks, Wands Exercises,

Lezium Exercises, combative, Asanas, Pyramids, Gymnastics Floor Exercises, Pole drill Exercises.

Minor Games:

- Dodge ball, Human hurdle relay, Running Forward Relay, Hopping Relay, Snatching the Kerchief, Find out the leader,Don't touch my tail game, Shadow tag game, Ball Roll Relay, Turnal Ball Relay, Football Dribbling Relay, Frog Jump Relay, Kangaroo Relay, Rama &Ravan minor game.

Selection of tests

AAHPER Youth Fitness test was used to assess the physical fitness status among Tribal school boys. This test considered to be the standard one.

Table- II

Criterion Measures

Sl.No	Variables	Test Items	Components
1	Strength	Pull-ups(In numbers)	Arm/Shouldermuscular strength and endurance
2	Endurance	Bent knee sit-ups (In numbers)	Abdominal/Hipmuscular strength & endurance
3	Agility	Shuttle run(In seconds)	Speed and change of direction
4	Explosive power	Standing broad jump (In centimeters)	Explosive power of leg extensor muscles
5	Speed	50 yards dash(In seconds)	The ability to move from one place to another in the shortest possible time.
6	Cardio respiratory endurance	600 yard run/ walk (In minutes)	Circulatory respiratory endurance

Pilot study

Prior to the formal study sessions, a pilot study was conducted to validate research procedure and the initial capacity of the participants to design the physical activitiesprogramme. The investigator has conducted a pilot study for 20 tribal school boys were selected at random from Kurnool district of Andhra Pradesh. The selected candidates underwent physical activities programme in order to know the practical difficulties in the administration of the test.

During the pilot study, the subjects underwent many exercise and physical activities programmes such as relay game, tag game, point scoring game. Which are closed related to improved physical fitness components. The investigator selected physical activities programmes for this study. Based on the pilot study the physical activities programme fixed time duration.

Reliability of data

The reliability of data was ensured by establishing the instrument reliability, tester competency and reliability of tests and subject's reliability.

Instrument reliability

The following instruments which were required to test the selected criterion variables such as stop watches callipered to 1/100 of second and flexible steel tapes, for this study were all the instruments used in this study were in good condition and workable, purchased in a reputed companies. Their calibration were tested and found to be an accurate enough to serve the purpose of the study.

Test Competency and Reliability of Test

Reliability of the test as well as the tester competency wasassessed together. The Reliability of test concerned the investigator established through test -retest methods, because all these test concerned with physique of the subjects. The investigator selected thirty subjects at random and Test and Retest were conducted on consecutive days for the six different items) on selected physical fitness variables. The scores thus obtained and correlated by using the Pearson's Product Movement Correlation methods. The co-efficient of correlation are presentation in Table - III.

Subject Reliability

In order to get uniform results from the same subjects, they were used under similar condition for the same test by the same tester. The test- retest method was used to find out the subjects reliability.

Table-III

Reliability of co – efficient of correlation of test – retests scores

Sl.No.	Test Items	No. of Subjects	Co-efficient of correlation 'r' value
1	Pull-ups (in numbers)	30	0.93*
2	Bent knee sit-ups(in numbers)	30	0.95*
3	Standing broad jump (in meters and centimeters)	30	0.92*
4	Shuttle run (in seconds)	30	0.94*
5	50 Yard dash (in seconds)	30	0.95*
6	600 Yard run/walk (in minutes and seconds)	30	0.96*

***Significant at 0.01 level of confidence**
(The tabulated 'r' required for significance at 0.01 level of confidence with 28 df is 0.463).

Orientation of the subjects

Prior to the administration of test the investigator explained the methods of doing the test and also demonstration properly. The physical education teacher helped to conduct the test properly.

Collection of Data

The data were collected on selected physical fitness variables from 786 tribal school boys in different school of Kurnool District of Andhra Pradesh and they were pooled age wise and prepared age wise Norms. Further the investigator selected 60 Tribal school boys at random and divided into two equal groups namely experimental group and control group. Each group consists of 30 subjects. The data were collected

before and after the physical activities programmes and also the investigator 30Non-Tribal school boys were selected in Kurnool District at random, to compare the physical fitness variables withTribal school boys.

Experimental Design

The present study was executed by the research scholar in terms of random group design. For this study 60 Tribal school boys were selected at random and divided into two equal groups namely experimental group and control group. Each group consists of 30 subjects. The experimental group underwent physical activities programme weekly fivedays for the period of 12 weeks, whereas control group did not participate any specific physical activities programme other than their daily routine work. The data were collected before and after experimental periods.

ADMINISTRATION OF TESTS

AAHPER YOUTH FITNESS TEST

Pull-Ups (in Numbers)

Purpose: To measure arm and shoulder strength.

Equipment's: A wooden or metal bar of 1 ½ inches in diameter was placed. The height was arranged at a convenient level.

Procedure:"The bar was high enough for the subject to hang with his arms and legsfully extended and his feet free of the floor, using over – hand grip. Afterassuming the hanging position, the subject raised his body by his arms until hischin was placed over the bar and then lowered his body to a full hang as in thestarting position. The exercise was repeated as many times as possible."

Rules:

"One trial was allowed. The body was not allowed to swing during theexecution of the movement. If the subject started swinging, it was checked byextending the arm across the front of the thighs. The knees were not allowed tobe raised and kicking of the leg was not permitted."

Scoring: A successful pull-up awarded one score. The number of trails permitted was only one.

BENT KNEE SIT-UPS

(in one minute)

Purpose: To measure abdominal muscular strength and endurance.

Equipment's: Mats were used. In case mats are not available bare floor itself is enough.

Procedure:"The subject assumed supine lying position with his knees bent, feet on the floor and heels not more than 12 inches from the buttocks. The angle at the knees was less than 90 degrees. The subjects kept his hand on the back of his neck with fingers clasped and placed his elbows squarely on the mat or turf. His feet were held by his partner to keep them in touch with the surface. The subject tightened his abdominal muscles and brought his head and elbow forward as the curled up, finally touching knees with elbows. This action was considered as one sit up. The subject returned to the starting position with his elbows on the surface before he sat up again. The timer gave the signal 'ready go' and the sit – ups performance was started on the word 'go' and the performance was stopped on the word 'stop'. The subjects continued to perform sit – ups for a period of 60 seconds."

Rules:

"Only one trial was allowed unless the subject did not perform fairly. Noresting was permitted between sit – ups. No sit – ups was counted if the subjectfailed to do it according to the above description."

Scoring: Each correct sit-up was given one point and 60 seconds time was allowed to each student. The student can make as many sit-ups as possible in the given time.

SHUTTLE RUN

(in seconds)

Purpose: To measure speed and change of direction (agility).

Equipment's: Two wooden blocks, 2"x2"x 4" and a stopwatch, score sheet and chunnam.

Procedure:"Two parallel lines were marked on the floor 30 feet apart. Two woodenblocks were placed behind one of these lines. The subject was asked to startbehind the other line after the signal 'ready go'. The subject was asked to runand pick up the block one by one from the starting line and then to place itbehind the starting line. To eliminate the necessity of returning the blocks aftereach race, races were started alternately, first from behind one line and thenbehind the other."

Rules:

"Two trials were allowed with some rest in between."

Scoring: The score is the elapsed time recorder in seconds and tenths of second for the better of 2 trailers.

STANDING BROAD JUMP

(in meters and centimeters)

Purpose: To measure explosive power of legextensor muscles.

Equipment's: One tape, one outdoor jumping pit and score sheet.

Procedure:"The subject was asked to stand feet apart comfortably and toes wereplaced just behind take – off line. For the preparation of jumping the subjectwas instructed to swing his arms backward and knees bent. When the jump wasexecuted, he was asked to extend the knees, swing the arms and push againstthe surface simultaneously."

Rules:

"Three trials were allowed and the measurement was taken from the takeoff line to the heel or other part of the body that touched the pit nearest to thetake off line."

Scoring: The score is the distance between the takeoff line and the heel/body mark in the jumping pit. It is measured in feet and inches to the closest inch. One of the best trails is recorded.

50 YARD DASH

(in seconds)

Purpose: To measure speed.

Equipment's: The materials required are 1/10 of stopwatch, clapper, Whistle andscore sheet.

Procedure:"The subject was asked to take the starting position behind the startingline. The starter used the commands 'Are you ready?' and 'go' simultaneouslywith the command 'Ready go'. Clapper was sounded for the help of the timerswho stand at the finish line."

Rules:

"The score was the time clapped between the starter's signal and theinstant the subjects crossed the finished line."

Scoring: The length of the time required to finish the course was recorded and the closest one tenth of a second has been considered as a result.

600 YARD RUN/WALK

(in minutes and seconds)

Purpose: To measure cardio respiratory endurance.

Equipment's: A track, a stopwatch, score sheet and chunnam.

Procedure:"Subject used standing start. At the signal 'ready go' subject startedrunning the 600 yard distance. The runners were allowed to walk if they felttired."

Rules:

"Walking was permitted but the subject was to cover the distance in theshortest possible time."

Scoring: The time of the run is recorded in minutes and seconds.

STATISTICAL TECHNIQUES

The data were collected from each test items “namely Pull Ups, Bent Knee Sit Ups, Shuttle Run, Standing Broad Jump, 50 Yard Dash, 600 Yard Run/Walk” were gathered for all the subjects separately and then pooled age-wise for preparing the norms. The age-wise norms were computed in terms of percentile scale, Hull-scale and T-scale separately for each item. In order to examine the significance of difference among the performance made by the subjects belonging to various age groups involved in this study on difference items of Physical Fitness Variables, Descriptive statistics and analysis of variance (ANOVA) was applied. The level of significance was fixed at 0.05. The obtained ‘F’ ratios was found significant differences among different age groups of 13 to 15 years Scheffe’s post –hoc test was applied to study the significance of differences between the paired means of the age groups. To compare Physical Fitness variables between Tribal School Boys and Non- Tribal School Boys‘t’ test was used. Further to find out the Influence of Physical Activities Programme on selected Physical Fitness variables analysis of covariance (ANCOVA) was used. In all cases the criteria for statistical significance was set at 0.05 level of significance ($P<0.05$).

CHAPTER IV

ANALYSIS OF DATA AND RESULTS OF THE STUDY

The statistical analysis of data pertaining to the study has been presented in this chapter. The study was designed to analyse into three phases. The first phase of the data on the physical fitness variables "such as Shoulder muscular strength, Abdominal muscular strength and endurance, Explosive power, Agility, Speed and Cardio respiratory endurance." Were collected from 786 Tribal school boys and pooled age wise.

PHASE – I

1. To Construct Physical fitness norms for Tribal school boys of Kurnool District of Andhra Pradesh.
2. To analyze the present Status of Physical fitness among Tribal school boys of Kurnool District of Andhra Pradesh.

1. Construction of Physical fitness norms for Tribal school boys of Kurnool District of Andhra Pradesh.

The subjects in various age groups considered for the purpose of this study have been compared to different items of physical fitness test using analysis of variance ('F'-ratio). This comparison was specifically done to ascertain whether the different age groups involved in this study might be considered separately for preparation of norms or they might be grouped together for that purpose and dealt with the preparation of normative scale i.e. Percentile scale, Hull scale and T-Scale.

In order to examine the significance of difference among the performance made by the subjects belonging to various age groups involved in this study on physical fitness variables, analysis of variance was applied. The analysis of variance for significance of differences among age groups 13 years through 15 years on different items for the above said test has been presented in table IV.

Table - IV

Analysis of Variance of the Mean Difference of Subjects Belonging to Different Age Groups (13 to 15 Years)

Sl. No.	Test Items	Sources of Variance	Df	Sum of Square	Mean Square Variance	'F'Ratio	P-Value
1	Pull-Ups	Between Within	2 783	827.31 4992.44	413.66 6.38	64.88*	0.0000
2	Bent Knee Sit-ups	Between Within	2 783	266.48 33167.54	133.24 42.36	3.15*	0.0434
3	Shuttle Run	Between Within	2 783	25.77 353.26	12.88 0.45	28.55*	0.0000
4	Standing Broad Jump	Between Within	2 783	5.41 31.19	2.71 0.04	67.93*	0.0000
5	50 yard Dash	Between Within	2 783	22.49 267.32	11.24 0.34	32.93*	0.0000
6	600 Yard Run/Walk	Between Within	2 783	2.55 136.37	1.28 0.17	7.33*	0.0007

***Significant at 0.05 level of Confidence**
(The table value required for significance at 0.05 level of Confidence with df 2 and 783 are 2.99)

Table - IV shows that the various age groups considered for this study exhibit significant difference at 0.05 levels in all the physical fitness variables. The obtained 'F' ratios 64.88, 3.15, 28.55, 67.93, 32.93 and 7.33 for "Pull – ups (Arm/Shoulder muscular strength and endurance), Bent knee sit-ups (Abdominal/hip muscular strength and endurance), Shuttle run (Speed and change of direction – agility), Standing broad jump (Explosive power of leg extensor muscles), 50 yard dash (speed) and 600 yard run/walk (circulatory respiratory endurance)"respectively, which are higher than the table value of 2.99 with df 2 and 783 required for significance at 0.05 level.

For all the 'F' ratios obtained on selected physical fitness variables were significant Scheffe'S post – hoc test was applied to study the significance of differences between the paired means of the various age groups on selected physical fitness variables have been presented in Tables V through X.

Table -V

Scheffe's Post –Hoc Test for Differences between the Paired Mean on Pull-Ups among 13, 14 and 15 Years Tribal School Boys

Mean Scores			MD	LS
13 Years	**14 Years**	**15 Years**		
4.97	6.03	-	1.06*	0.01*
4.97	-	7.49	2.52*	0.01*
-	6.03	7.49	1.46*	0.01*
Scheffe's Confidence Interval (CI)			5% = 0.54	1% = 0.67

*** Significant at 0.05 level as well as 0.01 level of confidence**

Table - VI

Scheffe'sPost –Hoc Test for Differences between the Paired Mean on Bent Knee Sit-Ups among 13, 14 and 15 Years Tribal School Boys

Mean Scores			MD	LS
13 Years	**14 Years**	**15 Years**		
21.43	22.10	-	0.67	NS
21.43	-	22.87	1.44*	0.05
-	22.10	22.87	0.77	NS
Scheffe's Confidence Interval (CI)			5% = 1.39	1% = 1.72

*** Significant at 0.05 level as well as 0.01 level of confidence**

NS: Not significant

Table - VII

Scheffe's Post –Hoc Test for Differences between the Paired Mean on Shuttle Run among 13, 14 and 15 Years Tribal School Boys

Mean Scores			MD	LS
13 Years	**14 Years**	**15 Years**		
12.20	11.92	-	0.29*	0.01
12.20	-	11.77	0.44*	0.01
-	11.92	11.77	0.15*	0.05
Scheffe's Confidence Interval (CI)			5% = 0.14	1% = 0.18

***Significant at 0.05 level of Confidence**

Table - VIII

Scheffe's Post –Hoc Test for Differences between the Paired Mean on Standing Broad Jump among 13, 14 and 15 Years Tribal School Boys

Mean Scores			MD	LS
13 Years	**14 Years**	**15 Years**		
1.59	1.69	-	0.10*	0.01
1.59	-	1.80	0.20*	0.01
-	1.69	1.80	0.11*	0.01
Scheffe's Confidence Interval (CI)			5% = 0.04	1% = 0.05

*** Significant at 0.05 level as well as 0.01 level of confidence.**

Table - IX

Scheffe's Post –Hoc Test for Differences between the Paired Mean on 50 Yard Dash among 13, 14 and 15 Years Tribal School Boys

Mean Scores			MD	LS
13 Years	**14 Years**	**15 Years**		
8.86	8.86	-	0.00	NS
8.86	-	8.50	0.36*	0.01
-	8.86	8.50	0.36*	0.01
Scheffe's Confidence Interval (CI)			5% = 0.12	1% = 0.15

*** Significant at 0.05 level as well as 0.01 level of confidence**

NS: Not significant

Table – X

Scheffe's Post –Hoc Test for Differences between the Paired Mean on 600 Yard Run/Walk among 13, 14 and 15 Years Tribal School Boys

Mean Scores			MD	LS
13 Years	**14 Years**	**15 Years**		
2.43	2.38	-	0.05	NS
2.43	-	2.29	0.14*	0.01
-	2.38	2.29	0.09*	0.05
Scheffe's Confidence Interval (CI)			5% = 0.09	1% = 0.11

*** Significant at 0.05 level as well as 0.01 level of confidence**

NS: Not significant.

The scrutiny of Tables V through X revealed that one or the other age groups considered in this study exposed significant differences on the different items as an overwhelming of paired mean differences which were greater than the required confidence interval at 0.05 level of significance. Since a vast majority of paired mean differences exhibited significant differences on all the items of AAHPER Youth Fitness test as revealed by the Scheffe's post – hoc test. The norms for grading physical fitness of Tribal school boys of the Kurnool District were computed according to the various age groupsconsidered in this study.

For the purpose of graphic representation of data, the mean of various age groups on the different items of the AAHPER Youth Fitness test have been exhibited in Table XI and all the means of various age groups on different items have been graphically compared in Fig. 1through 6.

Table – XI

Mean and Standard Deviation of Various Age Groups of Physical Fitness Variables

Age group In Years	Pull-ups (in numbers)		Bent Knee Sit-Ups (In one minutes)		Shuttle Run (in sec & tenths)		Standing broad jump (in Meters and cms)		50 yard dash (in sec & tenths)		600 yard run/walk (in Minutes and sec)	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
13	4.97	2.29	21.43	6.92	12.20	0.73	1.59	0.22	8.86	0.62	2.43	0.44
14	6.03	2.47	22.10	6.21	11.92	0.63	1.69	0.20	8.86	0.61	2.38	0.40
15	7.49	2.78	22.87	6.34	11.77	0.65	1.80	0.18	8.50	0.52	2.29	0.41

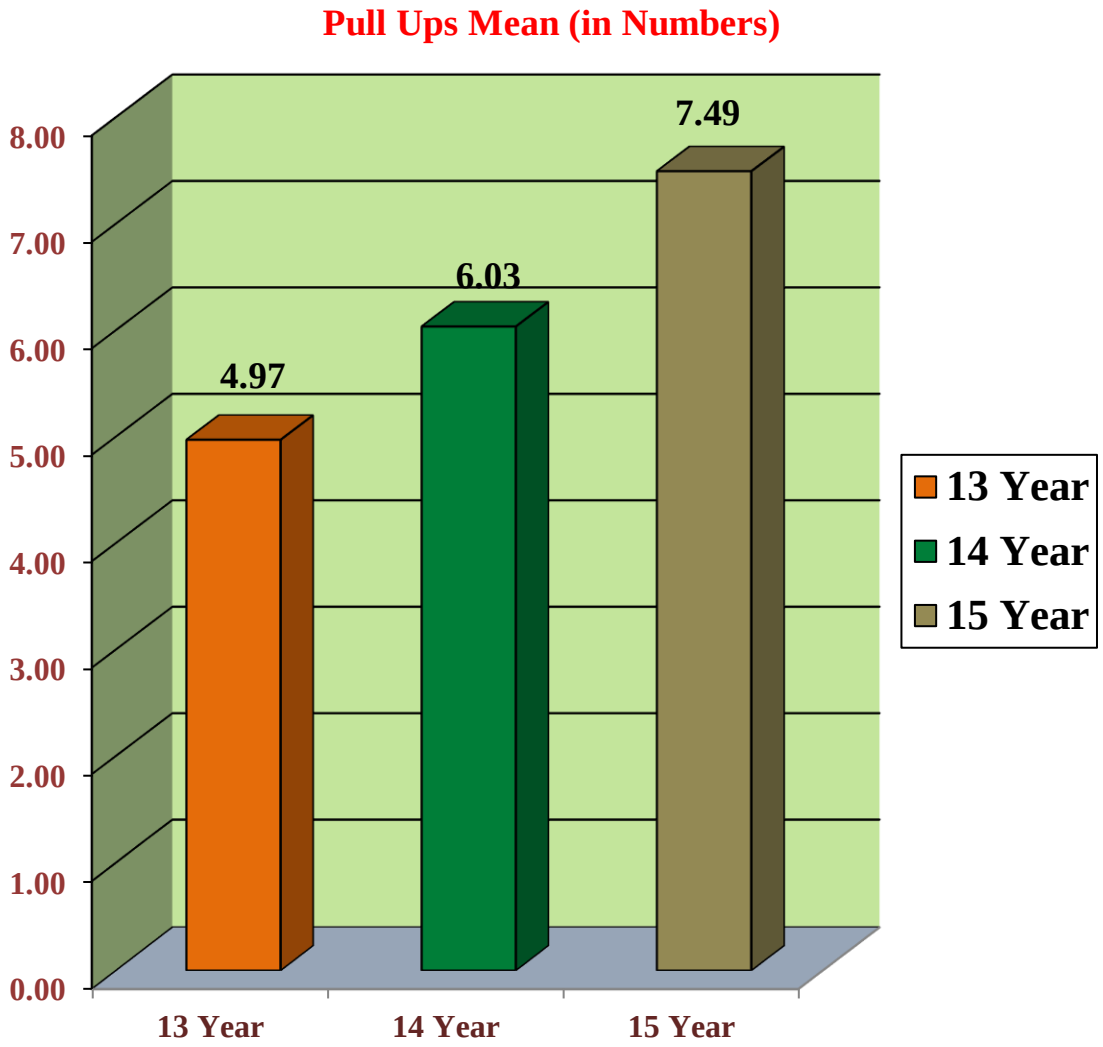


Figure 1:Bar Diagram showing the mean difference in performance of various agegroups in Pull-ups.

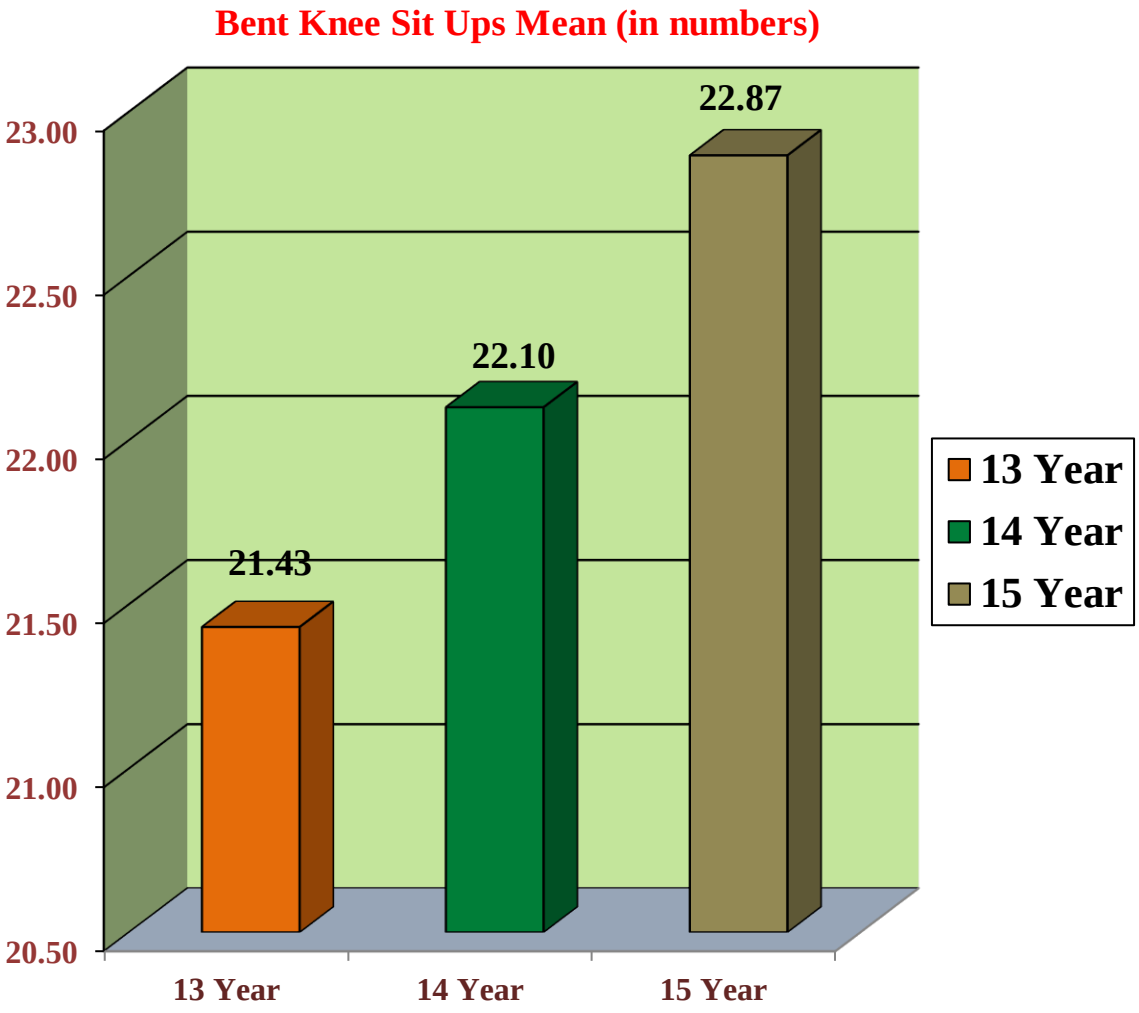


Figure 2:Bar Diagram showing the mean difference in performance of various age groups in Bent Knee Sit-Ups.

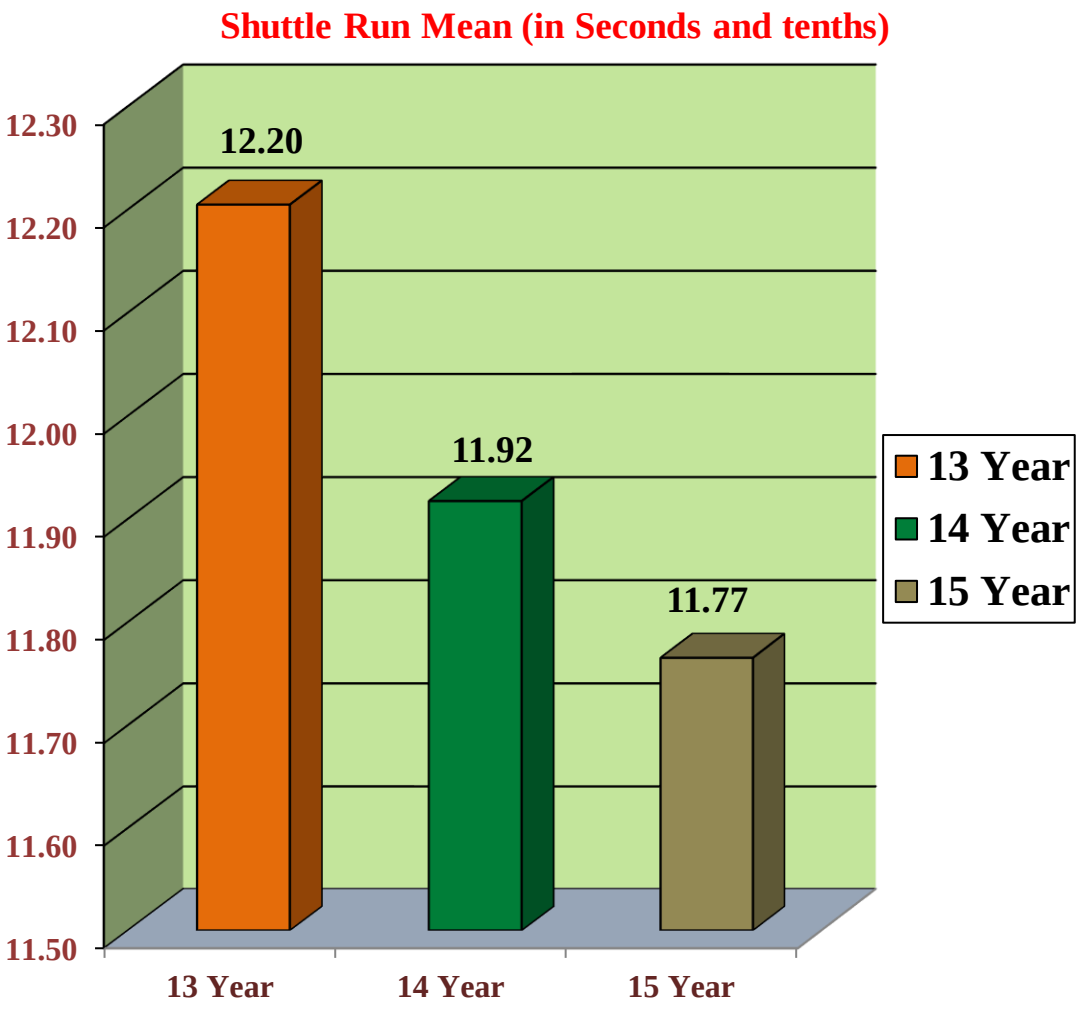


Figure 3:Bar Diagram showing the mean difference in performance of various age groups in Shuttle Run.

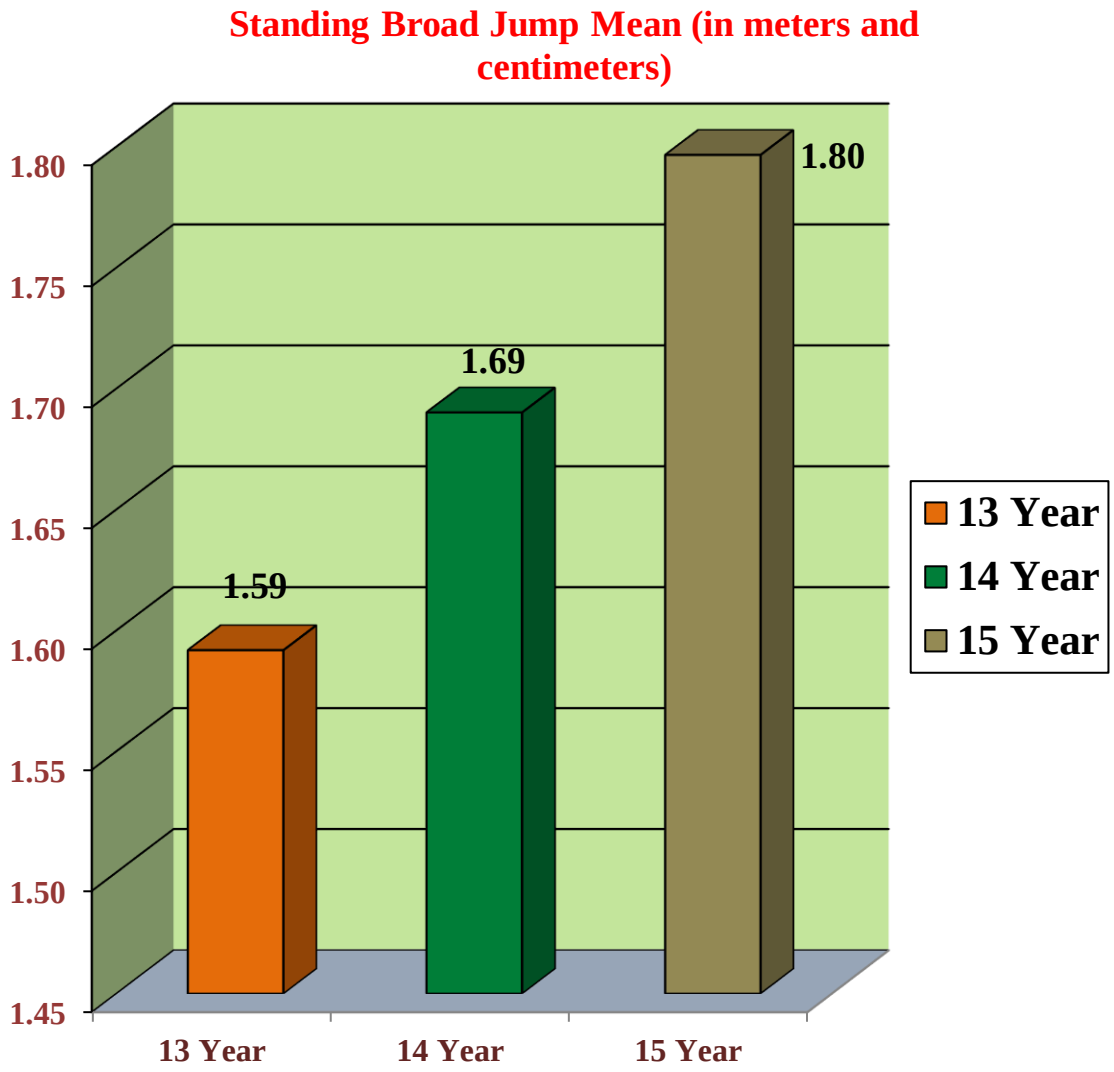


Figure 4:Bar Diagram showing the mean difference in performance of various age groups in Standing Broad Jump.

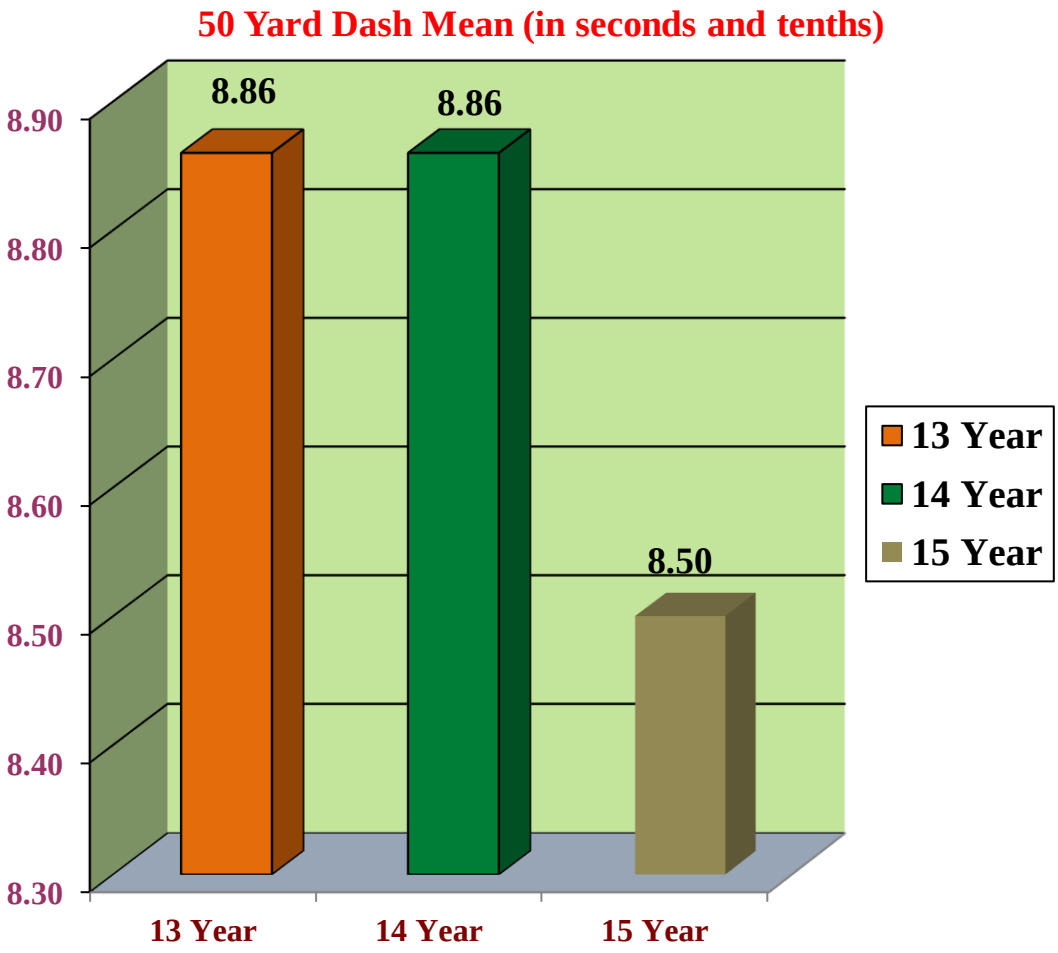


Figure 5:Bar Diagram showing the mean difference in performance of various age groups in 50 Yard Dash.

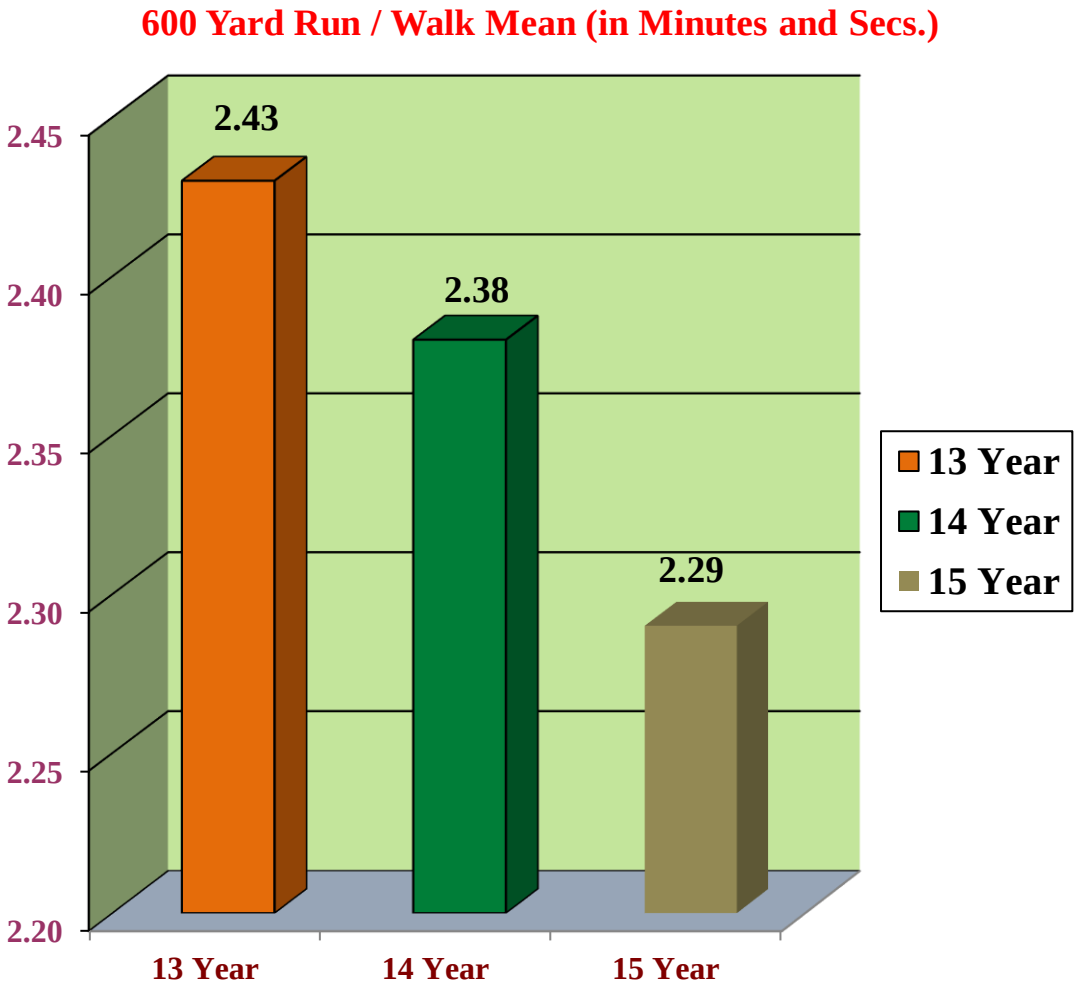


Figure 6:Bar Diagram showing the mean difference in performance of various age groups in 600 Yard Run/Walk.

Physical Fitness Norms

Three different scales namely, Percentile Scale, Hull scale and T-scale were computed for presenting norms for physical fitness among Tribal school boys of the Kurnool District of Andhra Pradesh.

Percentile scale is one of the most common ways of presenting norms. Percentile score informs the students about what proportion are used, scored from different tests can be compared to show how a student scored in relation to the other on each test. But still the percentile scale is not a standard scale, since it is not based on mean and standard deviation and the test score increments between percentiles are not constant. Therefore Hull scale and T-scale are computed which are actually considered as the standard scales, which remove one of the serious problems of inequality of units common among the percentile scale.

The Hull scale is quite similar to T-scale wherein mean is 50 and the scores ranging from 0 to 100. The only difference between the two scales is that the Hull scale encompasses 3.5 standard deviation above and below the mean, whereas the T-scale includes 5 standard deviation on either side of the mean. Because of this difference one can expect that students to obtain higher and lower scores on the Hull scale than on the T-scale. Since over 99 per cent of the scores in a normal distribution lie between 3 standard deviations above and below the mean. The T-scores normally range from 20 to 80. It represents a range of 3 standard deviations on either side of the mean. However, the two standard deviation cushion above and below this range is advantageous as it virtually precludes the possibility of encountering future scores that cannot be placed on scale. On that Hull scale and T-scale scores were prepared.

Percentile Norms of Age 13 through 15 Years

The percentile scale was constructed for various age groups involved in this study for different items of AAHPER Youth fitness test have been presented in Table XIIthrough XVII.

Hull Scale for Age 13 through 15 Years

In order to computed the Hull scale, the age-wise I and Standard Deviation for different test items of AAHPER Youth Fitness Test were calculated and then Hull scale constant was computed by using the following formula.

$$\text{Hull scale constant} = 3.5 \frac{\text{(raw score's standard deviation)}}{50}$$

The raw score mean value was marked against the Hull scale 50. Hull scale constant was added with raw score mean upto 3.5 standard deviation above the Hull scale mean and subtracted from raw scores mean upto 3.5 standard deviation below the Hull scale mean. The Hull-scale thus constructed for Tribal school boys from 13 to 15 through years separately for different items of AAHPER Youth Fitness test have been shown in Table XVIII through XXIII.

T- Scales were also constructed from the age-wise means and standard deviations for different items of the AAHPER Youth Fitness test. For computing T-scores, the following formula was used.

$$\text{T-Score} = 50 + \frac{10(x-m)}{SD}$$

Where

X=any raw score

M=raw score mean

50=T-Scale mean

10=T-scale standard deviation

SD=standard deviation of raw score

For timed scores, the following formula was used.

$$\text{T-Score} = 50 - \frac{10(x-m)}{SD}$$

The scores were computed upto5 standard deviation above and below the T-scale mean. Fractional part was omitted and integer part was taken as score. The T-scales prepared for various age groups employed in this study have been given in Table XII through XVII.

Table – XII

Pull – Ups

Percentile Scale, T-Scale and Hull Scale Based on Age/ Test Scores in Number of Pull-Ups

Percentile Scale	13 Years			14 Years			15 Years		
	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale
5	2.0	37.1	-2.3	2.0	33.7	-1.8	3.0	33.8	-1.3
10	2.0	37.1	-1.5	3.0	37.8	-0.9	4.0	37.4	-0.3
15	2.0	37.1	-0.7	3.0	37.8	0.0	5.0	41.0	0.7
20	3.0	41.4	0.1	4.0	41.8	0.8	5.0	41.0	1.7
25	3.0	41.4	0.9	4.0	41.8	1.7	5.0	41.0	2.6
30	3.7	44.5	1.8	5.0	45.8	2.6	6.0	44.6	3.6
35	4.0	45.8	2.6	5.0	45.8	3.4	6.0	44.6	4.6
40	4.0	45.8	3.4	5.0	45.8	4.3	7.0	48.2	5.5
45	4.0	45.8	4.2	6.0	49.9	5.2	7.0	48.2	6.5
50	**5.0**	**50.1**	**5.0**	**6.0**	**49.9**	**6.0**	**7.0**	**48.2**	**7.5**
55	5.0	50.1	5.8	6.0	49.9	6.9	8.0	51.8	8.5
60	6.0	54.5	6.6	7.0	53.9	7.8	8.0	51.8	9.4
65	6.0	54.5	7.4	7.0	53.9	8.6	8.8	54.5	10.4
70	6.0	54.5	8.2	7.0	53.9	9.5	9.0	55.4	11.4
75	7.0	58.8	9.0	8.0	57.9	10.4	9.3	56.3	12.4
80	7.0	58.8	9.8	8.0	57.9	11.2	10.0	59.0	13.3
85	7.0	58.8	10.6	9.0	62.0	12.1	10.0	59.0	14.3
90	8.0	63.2	11.4	9.0	62.0	13.0	11.0	62.6	15.3
95	9.0	67.5	12.2	10.0	66.0	13.8	12.0	66.2	16.3
100	11.0	76.2	13.0	13.0	78.1	14.7	16.0	80.6	17.2

Table-XIII
BENT KNEE SIT-UPS
Percentile Scale, T-Scale and Hull Scale Based on Age/ Test Scores in Number ofSit-Ups in 60 Seconds

Percentile Scale	13 Years			14 Years			15 Years		
	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale
5	9.0	32.0	-0.4	11.5	32.9	2.5	12.0	32.9	2.8
10	11.0	35.0	2.0	15.0	38.6	4.7	16.0	39.2	5.1
15	14.0	39.3	4.4	16.0	40.2	6.9	18.0	42.3	7.3
20	16.0	42.2	6.9	18.0	43.4	9.0	18.0	42.3	9.5
25	17.8	44.7	9.3	18.0	43.4	11.2	19.0	43.9	11.7
30	19.0	46.5	11.7	19.0	45.0	13.4	20.0	45.5	14.0
35	20.0	47.9	14.2	20.0	46.6	15.6	21.0	47.1	16.2
40	21.0	49.4	16.6	21.0	48.2	17.7	21.0	47.1	18.4
45	21.0	49.4	19.0	21.0	48.2	19.9	22.0	48.6	20.6
50	**22.0**	**50.8**	**21.4**	**22.0**	**49.8**	**22.1**	**23.0**	**50.2**	**22.9**
55	23.0	52.3	23.9	23.0	51.4	24.3	24.0	51.8	25.1
60	24.0	53.7	26.3	24.0	53.1	26.5	24.0	51.8	27.3
65	25.0	55.1	28.7	24.0	53.1	28.6	25.0	53.4	29.5
70	26.0	56.6	31.1	26.0	56.3	30.8	26.0	54.9	31.8
75	26.3	57.0	33.6	26.0	56.3	33.0	27.0	56.5	34.0
80	28.0	59.5	36.0	27.0	57.9	35.2	28.0	58.1	36.2
85	28.0	59.5	38.4	28.0	59.5	37.3	28.0	58.1	38.4
90	30.0	62.4	40.8	30.0	62.7	39.5	30.0	61.2	40.7
95	31.0	63.8	43.3	31.0	64.3	41.7	32.0	64.4	42.9
100	39.0	75.3	45.7	38.0	75.5	43.9	43.0	81.7	45.1

Table-XIV

SHUTTLE RUN

Percentile Scale, T-Scale and Hull Scale Based on Age/ Test Scores in Seconds and Tenths

Percentile Scale	13 Years			14 Years			15 Years		
	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale
5	13.41	66.49	14.51	13.11	68.96	13.90	13.15	71.35	13.81
10	13.07	61.77	14.26	12.73	62.95	13.68	12.45	60.61	13.58
15	12.89	59.32	14.00	12.54	59.88	13.46	12.18	56.32	13.36
20	12.79	57.99	13.74	12.45	58.44	13.24	12.10	55.08	13.13
25	12.72	56.97	13.49	12.36	57.02	13.02	11.96	52.94	12.90
30	12.65	56.08	13.23	12.25	55.28	12.80	11.88	51.77	12.67
35	12.53	54.44	12.97	12.18	54.17	12.58	11.84	51.15	12.45
40	12.44	53.21	12.72	12.10	52.90	12.36	11.80	50.53	12.22
45	12.33	51.73	12.46	11.91	49.83	12.14	11.77	50.07	11.99
50	**12.22**	**50.21**	**12.20**	**11.86**	**49.09**	**11.92**	**11.72**	**49.32**	**11.77**
55	12.10	48.61	11.95	11.78	47.82	11.70	11.66	48.42	11.54
60	12.02	47.50	11.69	11.73	47.03	11.48	11.62	47.76	11.31
65	11.91	45.97	11.44	11.65	45.71	11.26	11.57	46.99	11.08
70	11.81	44.65	11.18	11.56	44.39	11.04	11.50	45.93	10.86
75	11.72	43.38	10.92	11.50	43.38	10.81	11.47	45.45	10.63
80	11.64	42.31	10.67	11.40	41.79	10.59	11.40	44.30	10.40
85	11.53	40.79	10.41	11.28	39.90	10.37	11.28	42.53	10.17
90	11.34	38.19	10.15	11.20	38.62	10.15	11.16	40.68	9.95
95	11.14	35.48	9.90	11.10	37.03	9.93	10.93	37.18	9.72
100	10.67	29.09	9.64	10.71	30.85	9.71	10.45	29.77	9.49

Table-XV
STANDING BROAD JUMP
Percentile Scale, T-Scale and Hull Scale Based on Age/ Test Scores in Meters andCentimeters

Percentile Scale	13 Years			14 Years			15 Years		
	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale
5	1.24	33.62	0.91	1.40	35.58	1.06	1.52	34.37	1.23
10	1.32	37.38	0.99	1.47	39.01	1.13	1.60	39.09	1.29
15	1.40	41.03	1.06	1.50	40.55	1.20	1.64	41.31	1.36
20	1.43	42.49	1.14	1.53	42.04	1.27	1.67	42.98	1.42
25	1.46	43.88	1.21	1.56	43.54	1.34	1.70	44.50	1.48
30	1.47	44.35	1.29	1.58	44.53	1.41	1.70	44.64	1.54
35	1.50	45.74	1.37	1.62	46.52	1.48	1.73	46.31	1.61
40	1.53	47.13	1.44	1.65	47.81	1.55	1.75	47.42	1.67
45	1.56	48.53	1.52	1.67	49.00	1.62	1.76	47.97	1.73
50	**1.59**	**49.92**	**1.59**	**1.69**	**49.75**	**1.69**	**1.79**	**49.64**	**1.80**
55	1.62	51.31	1.67	1.70	50.49	1.76	1.80	50.19	1.86
60	1.65	52.70	1.74	1.73	51.98	1.83	1.82	51.30	1.92
65	1.66	53.33	1.82	1.75	52.98	1.90	1.85	52.97	1.99
70	1.69	54.56	1.89	1.78	54.47	1.97	1.86	53.52	2.05
75	1.72	55.95	1.97	1.82	56.33	2.04	1.90	55.74	2.11
80	1.75	57.35	2.04	1.84	57.45	2.11	1.93	57.41	2.17
85	1.80	59.67	2.12	1.88	59.27	2.18	1.97	59.49	2.24
90	1.85	61.99	2.19	1.92	61.43	2.25	2.04	63.23	2.30
95	1.98	68.02	2.27	2.03	66.67	2.32	2.15	69.61	2.36
100	2.25	80.56	2.35	2.48	89.26	2.39	2.31	78.49	2.43

Table-XVI
50 YARD DASH
Percentile Scale, T-Scale and Hull Scale Based on Age/ Test Scores in Seconds and Tenths

Percentile Scale	13 Years			14 Years			15 Years		
	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale
5	10.05	69.30	10.80	10.04	69.35	10.78	9.40	67.29	10.13
10	9.69	63.42	10.59	9.68	63.42	10.56	9.03	60.26	9.95
15	9.50	60.39	10.37	9.50	60.54	10.35	8.94	58.52	9.77
20	9.38	58.45	10.15	9.38	58.55	10.14	8.88	57.28	9.59
25	9.25	56.31	9.94	9.23	56.18	9.92	8.78	55.44	9.41
30	9.16	54.88	9.72	9.15	54.80	9.71	8.75	54.86	9.22
35	9.03	52.77	9.51	9.03	52.83	9.50	8.72	54.34	9.04
40	8.93	51.15	9.29	8.93	51.19	9.28	8.68	53.51	8.86
45	8.89	50.51	9.08	8.90	50.64	9.07	8.65	52.94	8.68
50	**8.84**	**49.69**	**8.86**	**8.84**	**49.71**	**8.86**	**8.58**	**51.60**	**8.50**
55	8.76	48.39	8.64	8.76	48.40	8.64	8.53	50.63	8.32
60	8.68	47.12	8.43	8.70	47.40	8.43	8.48	49.66	8.13
65	8.63	46.32	8.21	8.65	46.57	8.22	8.42	48.51	7.95
70	8.56	45.15	8.00	8.56	45.12	8.00	8.35	47.16	7.77
75	8.50	44.17	7.78	8.50	44.14	7.79	8.25	45.30	7.59
80	8.41	42.78	7.56	8.42	42.90	7.58	8.15	43.23	7.41
85	8.30	40.91	7.35	8.31	41.03	7.36	7.94	39.27	7.22
90	8.15	38.58	7.13	8.16	38.49	7.15	7.79	36.43	7.04
95	8.01	36.23	6.92	8.01	36.10	6.94	7.54	31.55	6.86
100	7.35	25.46	6.70	7.35	25.23	6.72	7.19	24.89	6.68

Table-XVII

600 YARD RUN / WALK

Percentile Scale, T-Scale and Hull Scale Based on Age/ Test Scores in Minutes and Seconds

Percentile Scale	13 Years			14 Years			15 Years		
	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale	Raw Score	T Scale	Hull Scale
5	3.28	69.18	3.82	3.15	69.42	3.63	3.14	70.59	3.59
10	3.14	66.03	3.67	3.04	66.65	3.49	2.59	57.32	3.44
15	3.04	63.78	3.51	2.59	55.33	3.35	2.56	56.59	3.30
20	2.58	53.44	3.36	2.57	54.83	3.21	2.52	55.62	3.15
25	2.55	52.76	3.20	2.54	54.08	3.07	2.49	54.89	3.01
30	2.50	51.63	3.05	2.50	53.07	2.93	2.45	53.93	2.86
35	2.47	50.94	2.89	2.47	52.20	2.80	2.41	52.85	2.72
40	2.44	50.28	2.74	2.44	51.56	2.66	2.38	52.21	2.58
45	2.41	49.61	2.58	2.40	50.56	2.52	2.35	51.48	2.43
50	**2.39**	**49.15**	**2.43**	**2.38**	**50.05**	**2.38**	**2.32**	**50.76**	**2.29**
55	2.35	48.27	2.27	2.36	49.48	2.24	2.30	50.27	2.14
60	2.31	47.38	2.12	2.32	48.54	2.10	2.27	49.54	2.00
65	2.27	46.43	1.96	2.29	47.75	1.96	2.23	48.52	1.86
70	2.23	45.53	1.81	2.23	46.38	1.82	2.18	47.35	1.71
75	2.17	44.17	1.65	2.18	45.02	1.68	2.12	45.97	1.57
80	2.13	43.27	1.50	2.15	44.27	1.54	2.07	44.57	1.42
85	2.10	42.59	1.34	2.10	43.01	1.40	2.02	43.46	1.28
90	2.04	41.34	1.19	2.02	40.89	1.26	1.58	32.78	1.14
95	1.59	31.06	1.03	1.58	29.96	1.13	1.52	31.39	0.99
100	1.55	30.20	0.88	1.53	28.67	0.99	1.45	29.61	0.85

2. Status of Physical fitness among Tribal school boys of Kurnool District of Andhra Pradesh.

The objective of this study was to find out the status of Physical fitness among Tribal school boys of Kurnool District of Andhra Pradesh. For this purpose the collected data of 786 Tribal school boys were graded based on Hull scores in all the six items of AAHPER Youth Fitness test.

The main purpose of this grading are:

- It may serve as guide and to indicate the student's achievements in terms of the stated objectives.
- It may indicate standing within the group with respect to established objectives.
- It may motivate the student to greater efforts.
- Grades enable parents to follow the progress and achievement of their children.
- Grading is an important public relation medium.
- Grade also serves as a means of informing them of the purposes and objectives of Physical education.
- Grade serves as main fold purpose for the teacher.
- It may encourage the teacher to make a competent evaluation of each student.

The collected data were analyzed and Hull score were worked out for all the Seven hundred and eighty six subjects in order to grade them in each Physical Fitness variable separately named Failed, Average, Above Average, Good, Very Good and Excellent.

Table – XVIII

The Quantitative Grading for the Performance of Tribal School Boys on Shoulder Muscular Strength and Endurance (Pull –Ups)

Hull Scale	13 Years		14 Years		15 Years		Status
	N	%	N	%	N	%	
<= 25	0	0	5	1.9	8	3.1	Failed
26 – 35	41	15.8	37	13.7	28	10.9	Average
36 – 50	80	30.8	114	42.2	95	37.1	Above Average
51 – 65	106	40.8	62	23.0	91	35.5	Good
66 – 75	16	6.2	45	16.7	26	10.2	Very Good
> 75	17	6.5	7	2.6	8	3.1	Excellent
Total	260	100.0	270	100.0	256	100.0	

The results of the survey indicated in Shoulder Muscular Strength and Endurance (Pull-Ups) that among the subjects with age of 13 years, 0.0 % were found to be Failed, 15.8 % were found to be Average, 30.8 % were found to be Above Average, 40.8 % were found to be Good, 6.2 % were found to be Very Good, 6.5 % were found to be Excellent.

The results of the survey indicate in Shoulder Muscular Strength and Endurance (Pull-Ups) that among the subjects with age of 14 years, 1.9 % were found to be Failed, 13.7 % were found to be Average, 42.2 % were found to be Above Average, 23.0 % were found to be Good, 16.7 % were found to be Very Good, 2.6 % were found to be Excellent.

The results of the survey indicate in Shoulder Muscular Strength and Endurance (Pull-Ups) that among the subjects with age of 15 years, 3.1 % were found to be Failed, 10.9 % were found to be Average, 37.1 % were found to be Above Average, 35.5 % were found to be Good, 10.2 % were found to be Very Good, 3.1 % were found to be Excellent.

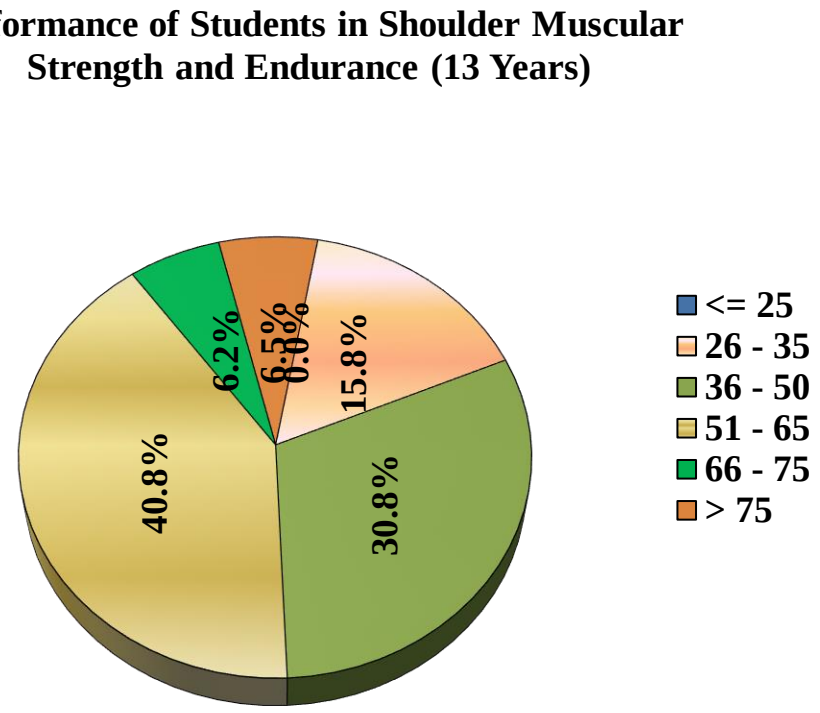


Figure 7:Pie Diagram Showing the Performance of the Students on Shoulder Muscular Strength and Endurance (Pull-Ups).

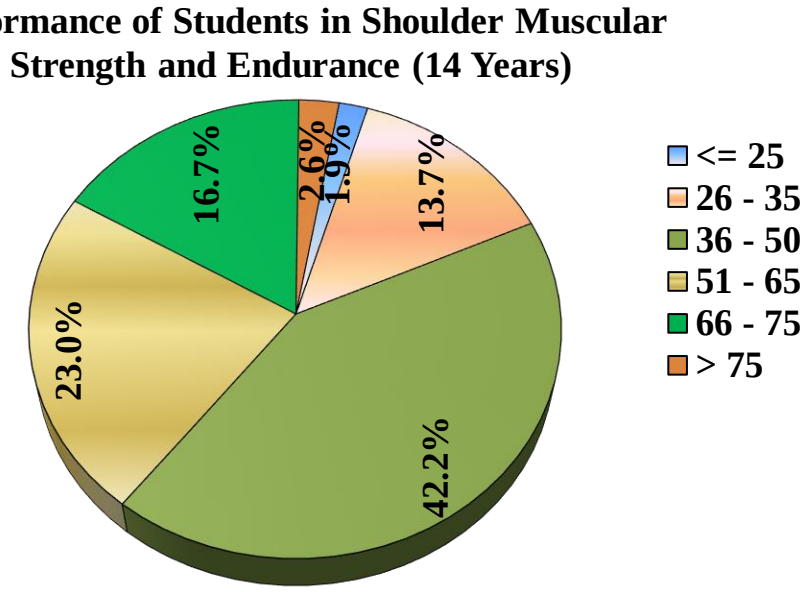


Figure 8:Pie Diagram Showing the Performance of the Students on Shoulder Muscular Strength and Endurance (Pull-Ups).

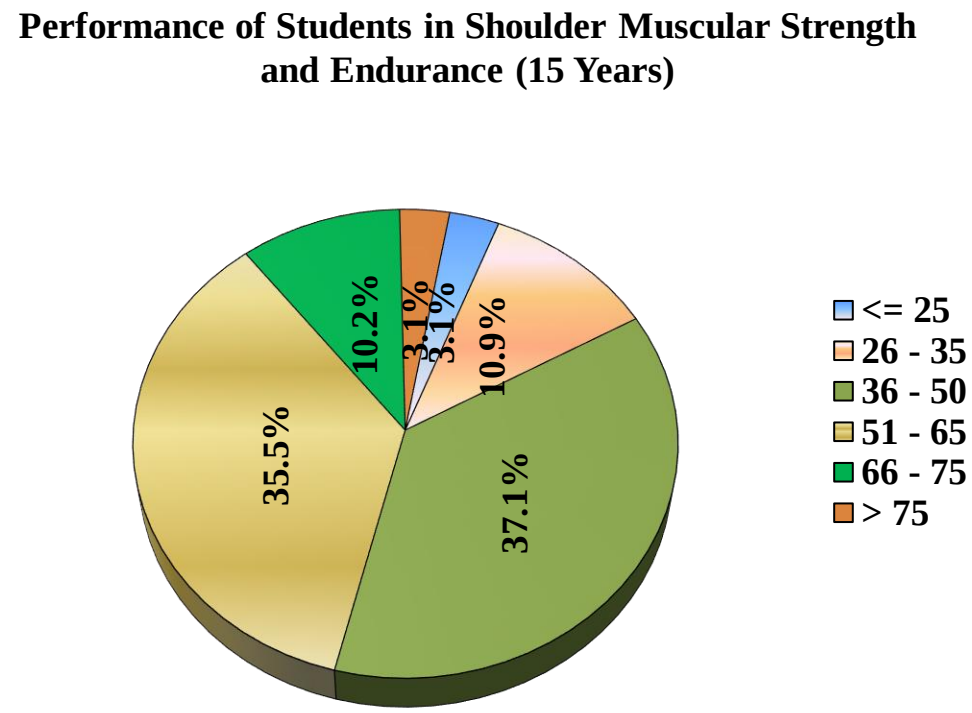


Figure 9:Pie Diagram Showing the Performance of the Students on Shoulder Muscular Strength and Endurance (Pull-Ups).

Table - XIX

The Quantitative Grading for the Performance of Tribal School Boys on Abdominal Muscular Strength and Endurance (Bent Knee Sit-ups)

Hull Scale	13 Years		14 Years		15 Years		Status
	N	%	N	%	N	%	
<= 25	14	5.4	14	5.2	11	4.3	Failed
26 - 35	29	11.2	21	7.8	19	7.4	Average
36 - 50	79	30.4	103	38.1	90	35.2	Above Average
51 - 65	102	39.2	95	35.2	104	40.6	Good
66 - 75	33	12.7	28	10.4	21	8.2	Very Good
> 75	3	1.2	9	3.3	11	4.3	Excellent
Total	260	100.0	270	100.0	256	100.0	

The results of the survey indicate in Abdominal Muscular Strength and Endurance (BentKnee Sit-ups)that among the subjects with age of 13 years, 5.4 % were found to be Failed, 11.2 % were found to be Average, 30.4 % were found to be Above Average, 39.2 % were found to be Good, 12.7 % were found to be Very Good, 1.2 % were found to be Excellent.

The results of the survey indicate in Abdominal Muscular Strength and Endurance (Bent Knee Sit-ups**)** that among the subjects with age of 14 years, 5.2 % were found to be Failed, 7.8 % were found to be Average, 38.1 % were found to be Above Average, 35.2 % were found to be Good, 10.4 % were found to be Very Good, 3.3 % were found to be Excellent.

The results of the survey indicate in Abdominal Muscular Strength and Endurance (Bent Knee Sit-ups) that among the subjects with age of 15 years, 4.3 % were found to be Failed, 7.4 % were found to be Average, 35.2 % were found to be Above Average, 40.6 % were found to be Good, 8.2 % were found to be Very Good, 4.3 % were found to be Excellent.

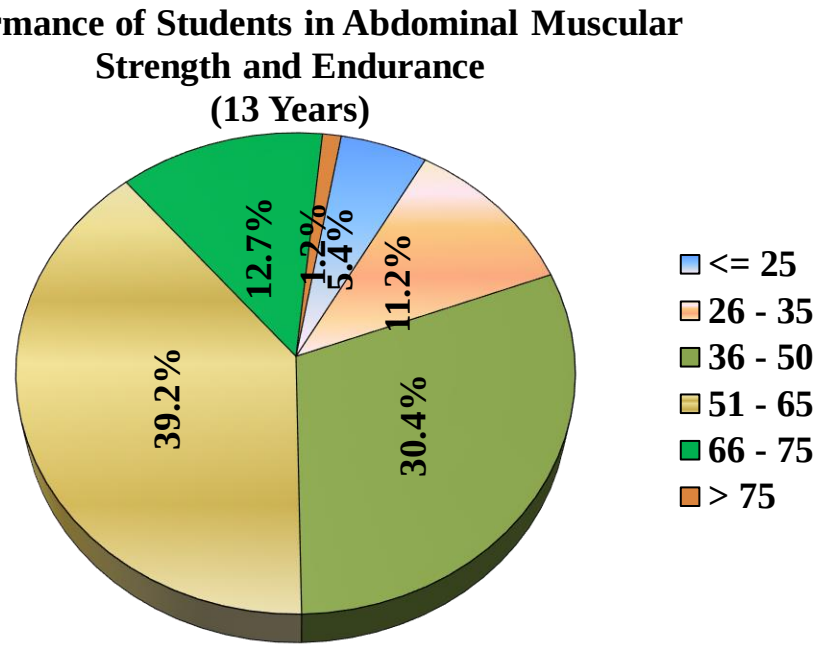


Figure 10:Pie Diagram Showing the Performance of the Students on Abdominal Muscular Strength and Endurance (Bent Knee Sit-Ups).

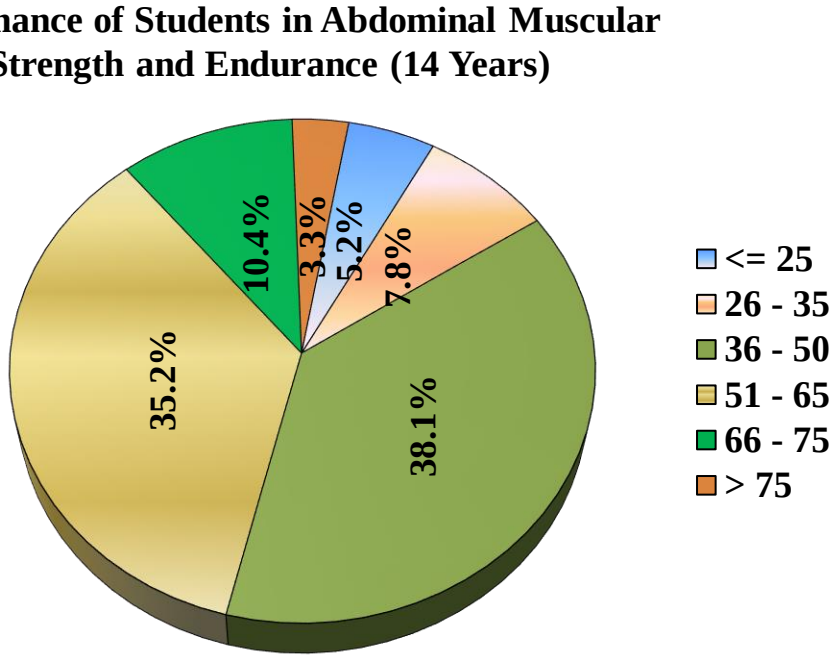


Figure 11:Pie Diagram Showing the Performance of the Students on Abdominal Muscular Strength and Endurance (Bent Knee Sit-Ups).

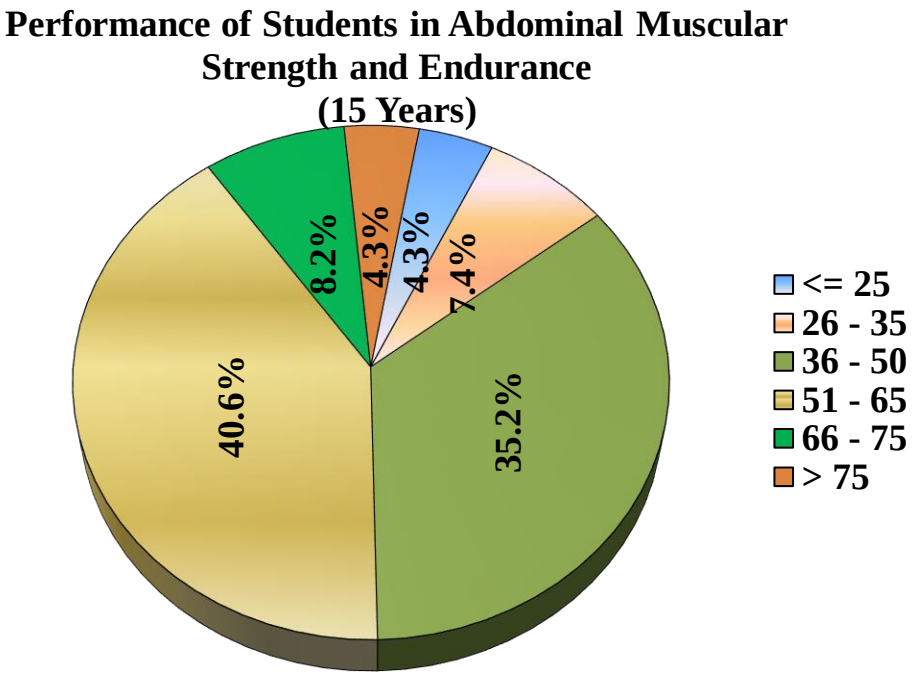


Figure 12:Pie Diagram Showing the Performance of the Students on Abdominal Muscular Strength and Endurance (Bent Knee Sit-Ups).

Table - XX

The Quantitative Grading for the Performance of Tribal School Boys on Agility (Shuttle Run)

Hull Scale	13 Years		14 Years		15 Years		Status
	N	%	N	%	N	%	
<= 25	10	3.8	14.0	5.2	16	6.3	Failed
26 - 35	17	6.5	22	8.1	9	3.5	Average
36 - 50	103	39.6	82	30.4	89	34.8	Above Average
51 - 65	93	35.8	111	41.1	120	46.9	Good
66 - 75	28	10.8	33	12.2	15	5.9	Very Good
> 75	9	3.5	8	3.0	7	2.7	Excellent
Total	260	100.0	270	100.0	256	100.0	

The results of the survey indicate in Agility (Shuttle Run) that among the subjects with age of 13 years, 3.8 % were found to be Failed, 6.5 % were found to be Average, 39.6 % were found to be Above Average, 35.8 % were found to be Good, 10.8 % were found to be Very Good, 3.5 % were found to be Excellent.

The results of the survey indicate in Agility (Shuttle Run) that among the subjects with age of 14 years, 5.2 % were found to be Failed, 8.1 % were found to be Average, 30.4 % were found to be Above Average, 46.9 % were found to be Good, 12.2 % were found to be Very Good, 3.0 % were found to be Excellent.

The results of the survey indicate in Agility (Shuttle Run) that among the subjects with age of 15 years, 6.3 % were found to be Failed, 3.5 % were found to be Average, 34.8 % were found to be Above Average, 46.9 % were found to be Good, 5.9 % were found to be Very Good, 2.7 % were found to be Excellent.

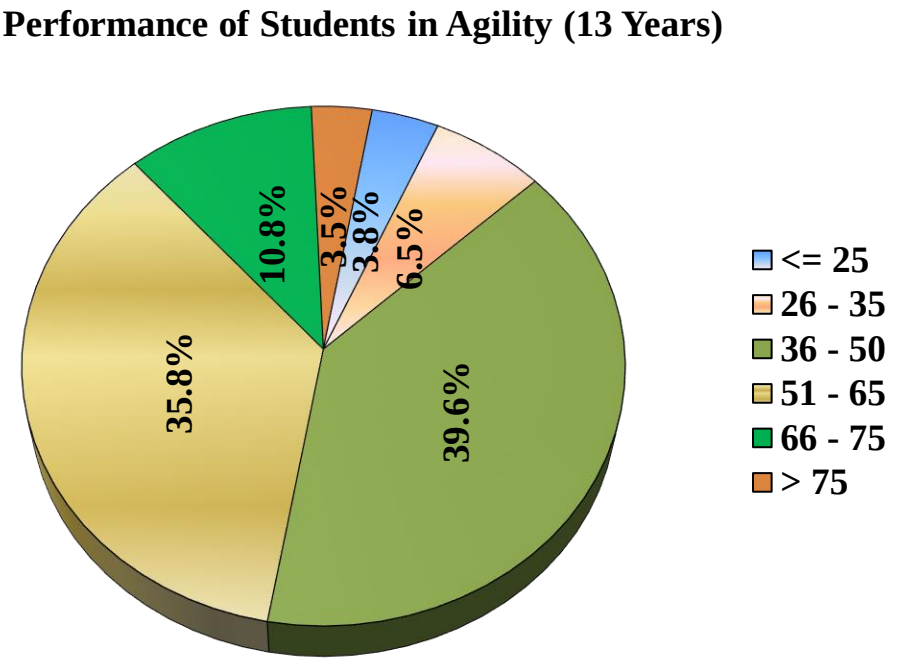


Figure 13:Pie Diagram Showing the Performance of the Students on Agility (Shuttle Run).

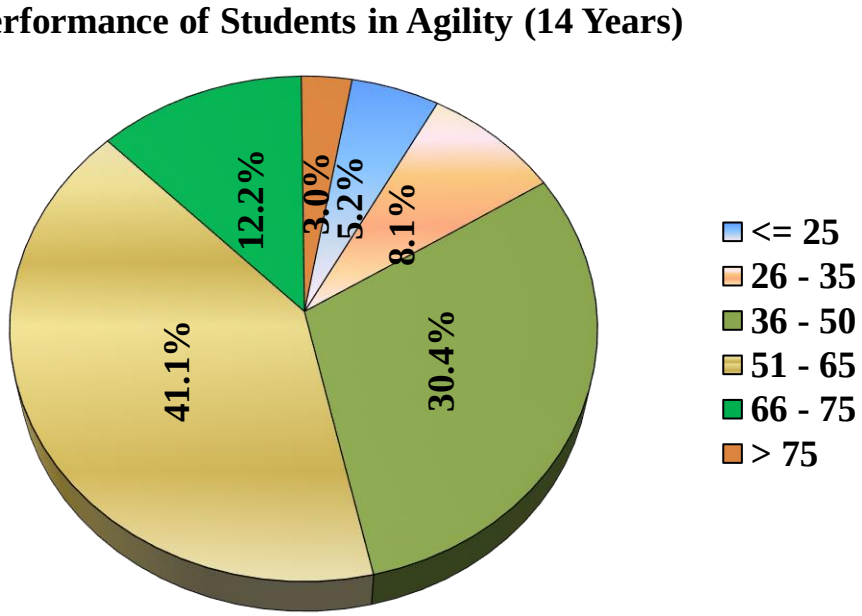


Figure 14:Pie Diagram Showing the Performance of the Students on Agility (Shuttle Run).

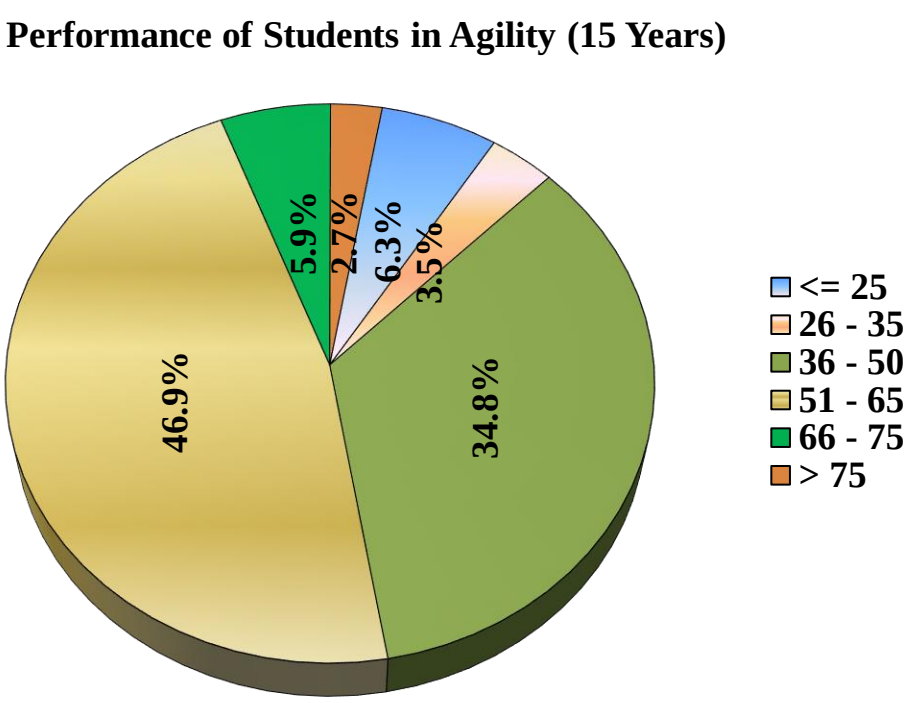


Figure 15:Pie Diagram Showing the Performance of the Students on Agility (Shuttle Run).

Table – XXI

The Quantitative Grading for the Performance of Tribal School Boys on Explosive power (Standing Broad Jump)

Hull Scale	13 Years		14 Years		15 Years		Status
	N	%	N	%	N	%	
<= 25	11	4.2	6	2.2	10	3.9	Failed
26 - 35	21	8.1	25	9.3	20	7.8	Average
36 - 50	99	38.1	108	40.0	103	40.2	Above Average
51 - 65	96	36.9	102	37.8	90	35.2	Good
66 - 75	17	6.5	16	5.9	19	7.4	Very Good
> 75	16	6.2	13	4.8	14	5.5	Excellent
Total	260	100.0	270	100.0	256	100.0	

The results of the survey indicate in Explosive power (Standing Broad Jump)that among the subjects with age of 13 years, 4.2 % were found to be Failed, 8.1 % were found to be Average, 38.1 % were found to be Above Average, 36.9 % were found to be Good, 6.5 % were found to be Very Good, 6.2 % were found to be Excellent.

The results of the survey indicate in Explosive power (Standing Broad Jump)that among the subjects with age of 14 years, 2.2 % were found to be Failed, 9.3 % were found to be Average, 40.0 % were found to be Above Average, 37.8 % were found to be Good, 5.9 % were found to be Very Good, 4.8 % were found to be Excellent.

The results of the survey indicate in Explosive power (Standing Broad Jump)that among the subjects with age of 15 years, 3.9 % were found to be Failed, 7.8 % were found to be Average, 40.2 % were found to be Above Average, 35.2 % were found to be Good, 7.4 % were found to be Very Good, 5.5 % were found to be Excellent.

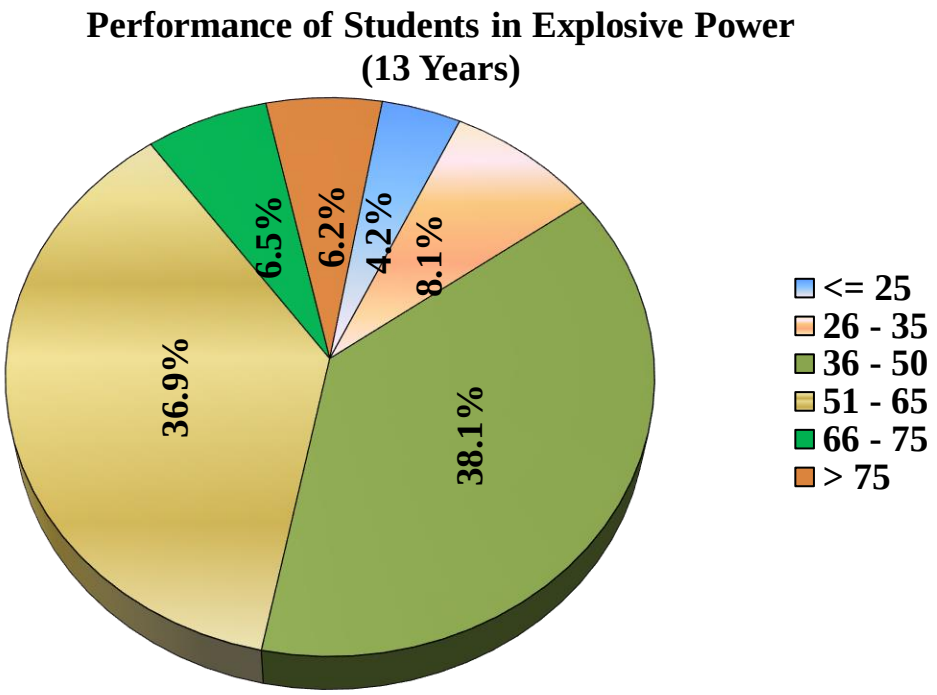


Figure 16:Pie Diagram Showing the Performance of the Students on Explosive Power (Standing Broad Jump).

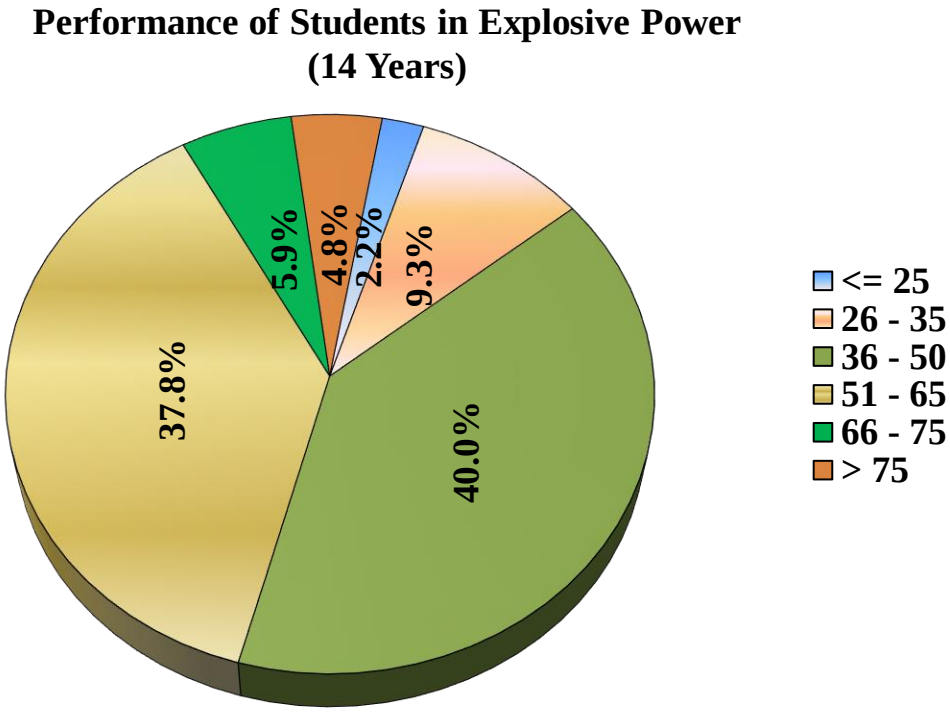


Figure 17:Pie Diagram Showing the Performance of the Students on Explosive Power (Standing Broad Jump).

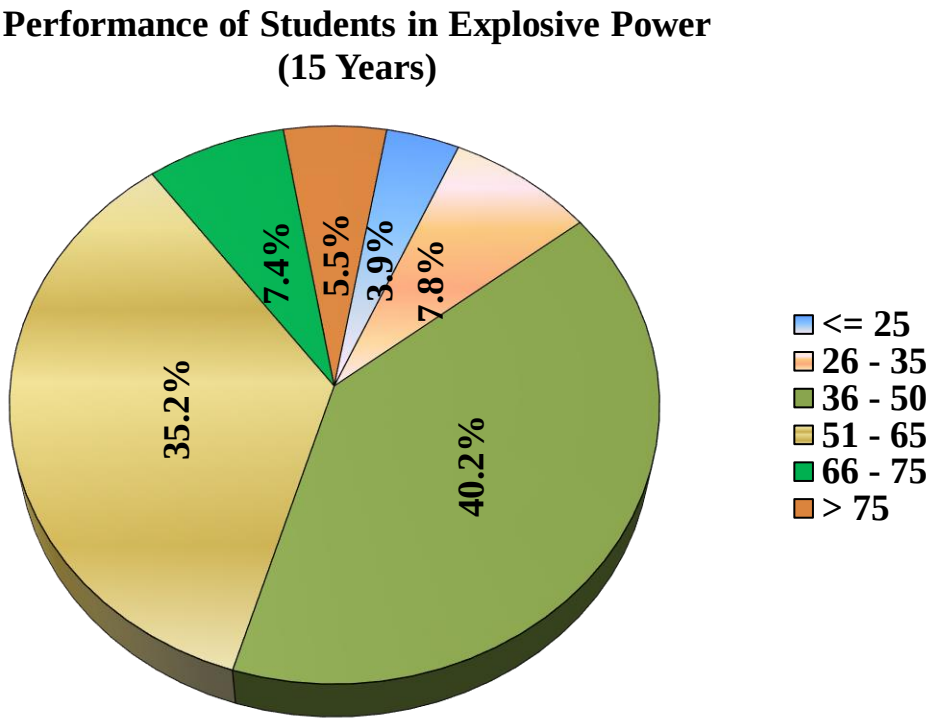


Figure 18:Pie Diagram Showing the Performance of the Students on Explosive Power (Standing Broad Jump).

Table - XXII

The Quantitative Grading for the Performance of Tribal School Boys on Speed (50 Yard Dash)

Hull Scale	13 Years		14 Years		15 Years		Status
	N	%	N	%	N	%	
<= 25	14	5.4	14	5.2	11	4.3	Failed
26 - 35	20	7.7	25	9.3	10	3.9	Average
36 - 50	89	34.2	89	33.0	127	49.6	Above Average
51 - 65	106	40.8	110	40.7	66	25.8	Good
66 - 75	23	8.8	24	8.9	24	9.4	Very Good
> 75	8	3.1	8	3.0	18	7.0	Excellent
Total	260	100.0	270	100.0	256	100.0	

The results of the survey indicate in Speed (50 Yard Dash)that among the subjects with age of 13 years, 5.4 % were found to be Failed, 7.7 % were found to be Average, 34.2 % were found to be Above Average, 40.8 % were found to be Good, 8.8 % were found to be Very Good, 3.1 % were found to be Excellent.

The results of the survey indicate in Speed (50 Yard Dash)that among the subjects with age 14 of years, 5.2 % were found to be Failed, 9.3 % were found to be Average, 33.0 % were found to be Above Average, 40.7 % were found to be Good, 8.9 % were found to be Very Good, 3.0 % were found to be Excellent.

The results of the survey indicate in Speed (50 Yard Dash) that among the subjects with age of 15 years, 4.3 % were found to be Failed, 3.9 % were found to be Average, 49.6 % were found to be Above Average, 25.8 % were found to be Good, 9.4 % were found to be Very Good, 7.0 % were found to be Excellent.

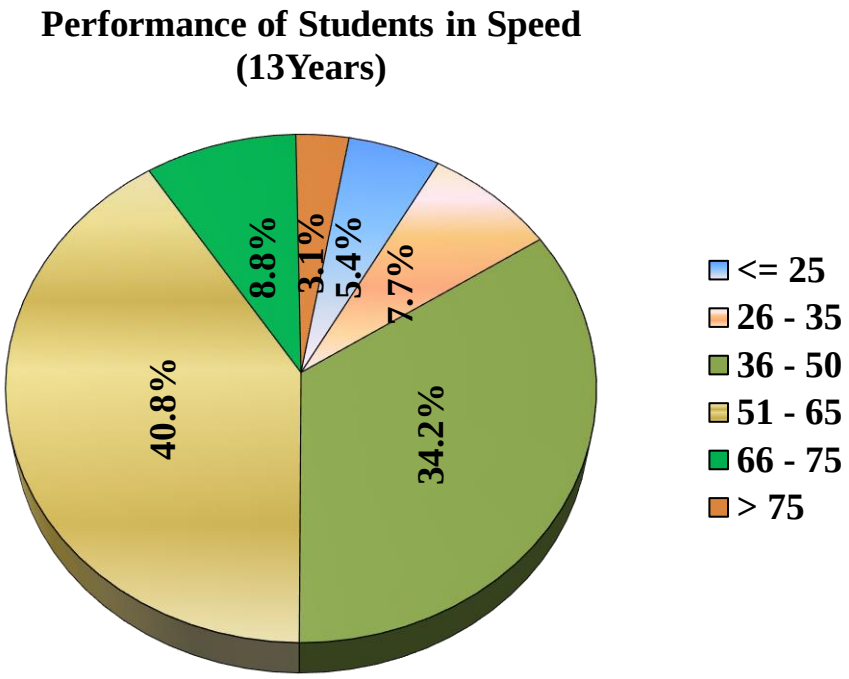


Figure 19:Pie Diagram Showing the Performance of the Students on Speed (50Yard Dash).

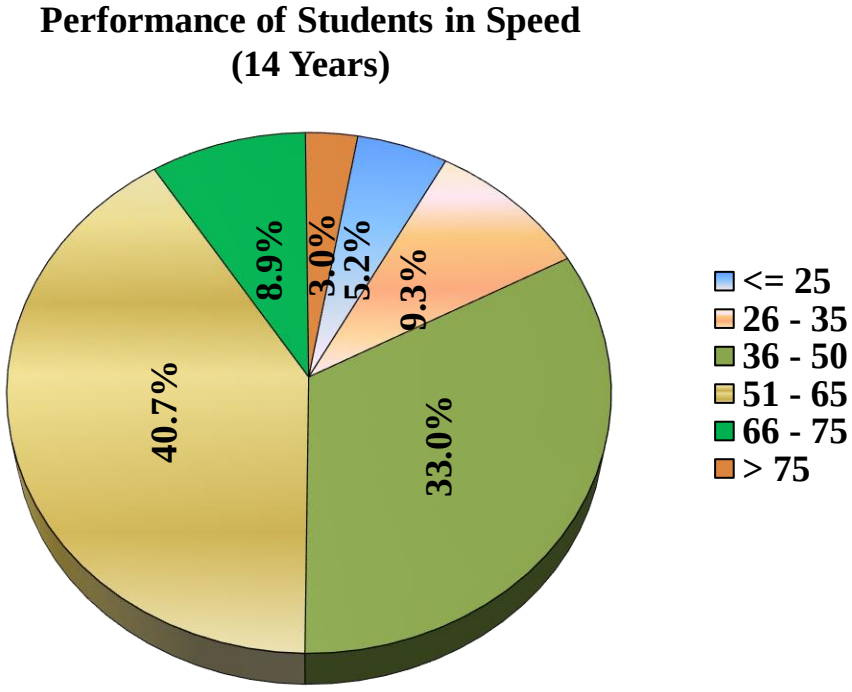


Figure 20:Pie Diagram Showing the Performance of the Students on Speed

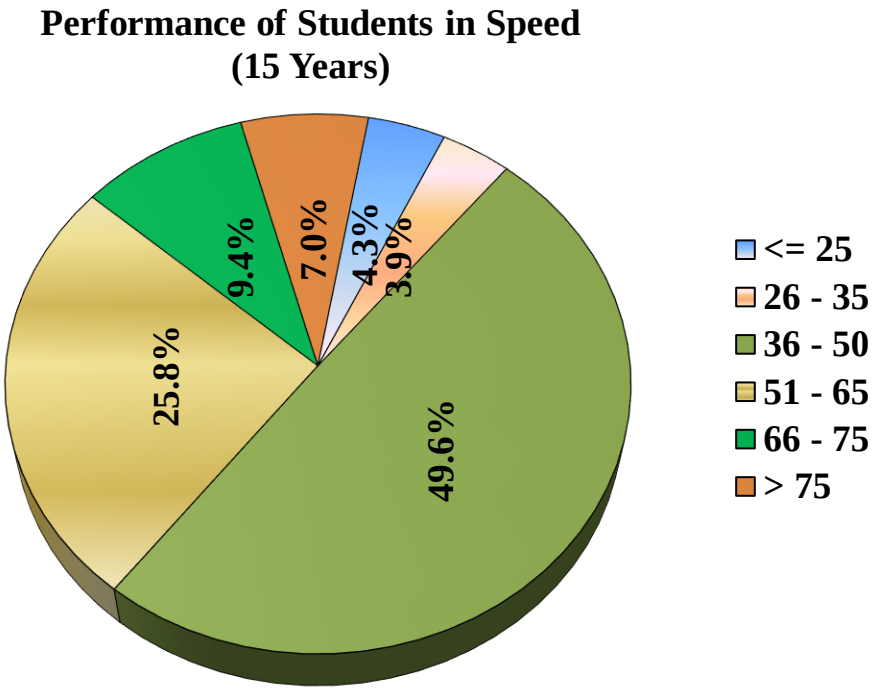


Figure –21 Pie Diagram Showing the Performance of the Students on Speed (50Yard Dash).

Table - XXIII

The Quantitative Grading for the Performance of Tribal School Boys on Cardio Respiratory Endurance (600 Yard Run/Walk)

Hull Scale	13 Years		14 Years		15 Years		Status
	N	%	N	%	N	%	
<= 25	14	5.4	21	7.8	17	6.6	Failed
26 – 35	34	13.1	14	5.2	1	0.4	Average
36 – 50	61	23.5	100	37.0	128	50.0	Above Average
51 – 65	134	51.5	111	41.1	78	30.5	Good
66 – 75	0	0.0	2	0.7	9	3.5	Very Good
> 75	17	6.5	22	8.1	23	9.0	Excellent
Total	260	100.0	270	100.0	256	100.0	

The results of the survey indicate in Cardio Respiratory Endurance (600 Yard Run/Walk) that among the subjects with age of 13 years, 5.4 % were found to be Failed, 13.1 % were found to be Average, 23.5 % were found to be Above Average, 51.5 % were found to be Good, 0.0 % were found to be Very Good, 6.5 % were found to be Excellent.

The results of the survey indicate in Cardio Respiratory Endurance (600 Yard Run/Walk) that among the subjects with age of 14 years, 7.8 % were found to be Failed, 5.2 % were found to be Average, 37.0 % were found to be Above Average, 41.1 % were found to be Good, 0.7 % were found to be Very Good, 8.1 % were found to be Excellent.

The results of the survey indicate in Cardio Respiratory Endurance (600 Yard Run/Walk)that among the subjects with age of 15 years, 6.6 % were found to be Failed, 0.4 % were found to be Average, 50.0 % were found to be Above Average, 30.5 % were found to be Good, 3.5 % were found to be Very Good, 9.0 % were found to be Excellent.

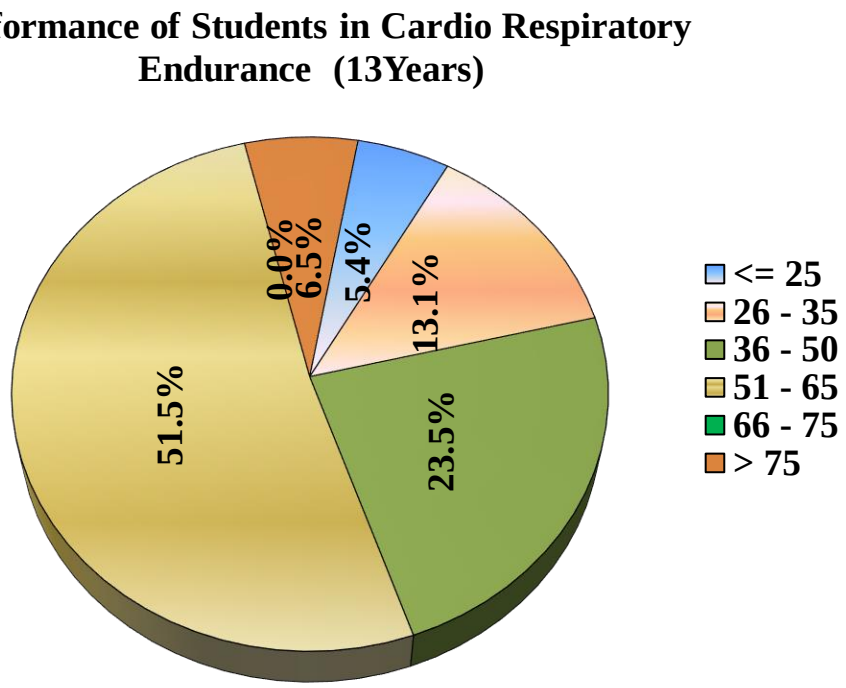


Figure 22:Pie Diagram Showing the Performance of the Students on Cardio Respiratory Endurance (600 Yard Run /Walk).

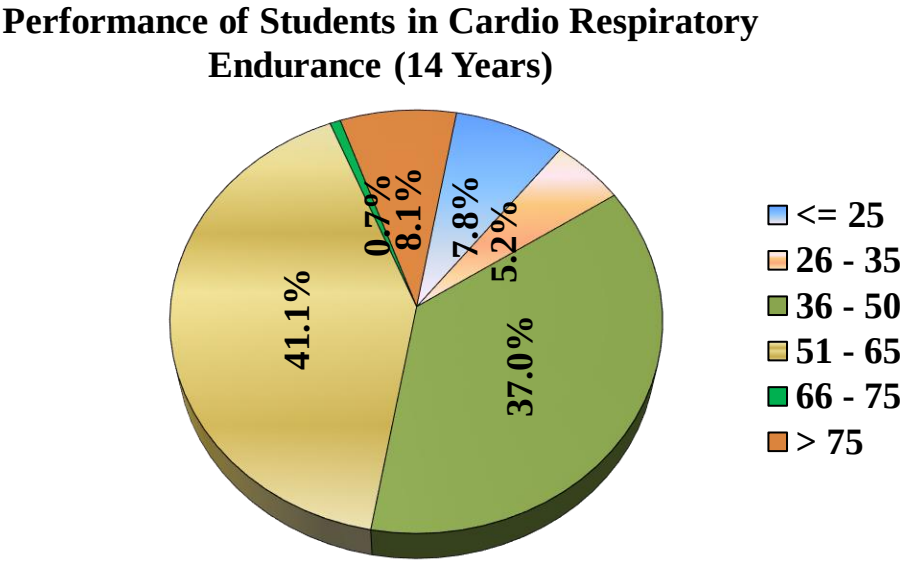


Figure 23:Pie Diagram Showing the Performance of the Students on Cardio Respiratory Endurance (600 Yard Run /Walk).

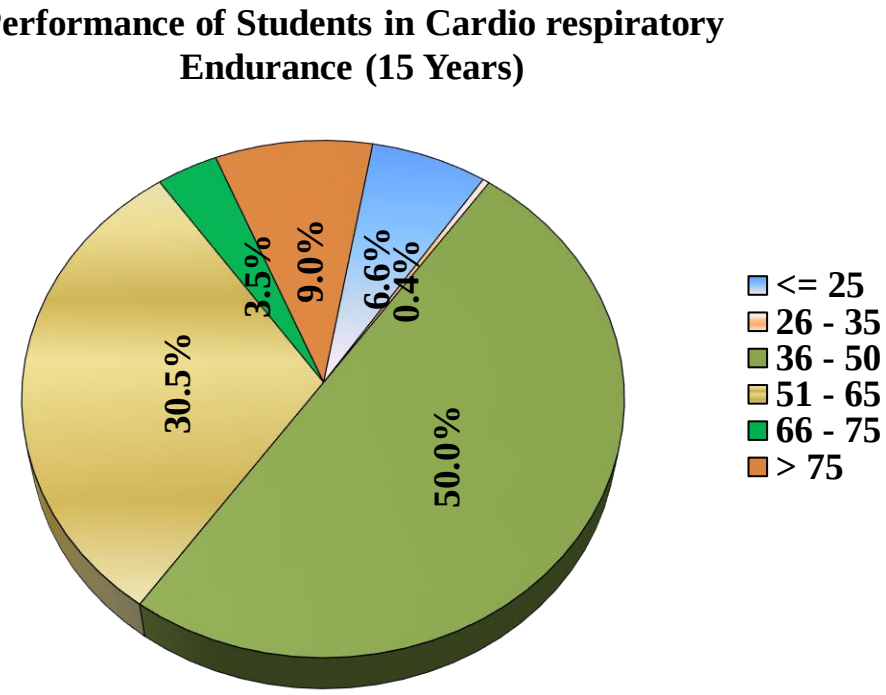


Figure 24:Pie Diagram Showing the Performance of the Students on Cardio Respiratory Endurance (600 Yard Run/Walk).

Phase –II

2. Compare the Physical Fitness variables between Tribal and Non-Tribal School Boys of Kurnool District of Andhra Pradesh.

Further this study was intended to investigate the physical fitness variables between Tribal and Non-Tribal school boys, through the AAHPER Youth Fitness test. To achieve the purpose of this study 30 Tribal School boys and 30 Non-Tribal school boys were selected at random from Kurnool Districts of Andhra Pradesh. Their age ranged from 13 to 15 years.

Table - XXIV

Computation of Mean, Standard deviation, Standard error of mean, Mean difference and 't' ratio of Physical Fitness between Tribal and Non-Tribal school boys.

Sl. No	Variables	Group	Mean	Standard Deviation	Standard Error	Mean Difference	't' Ratio	P-Value
1	**Shoulder Muscular Strength (Pull-ups)**	Tribal (N=30)	8.43	2.31462	0.42259	1.46	2.16*	0.034
		Non-Tribal (N=30)	6.97	2.89451	0.52846			
2	**Abdominal Muscular Strength and Endurance (Bent-Knee Sit-Ups)**	Tribal (N=30)	25.67	8.63167	1.57592	3.67	2.10*	0.040
		Non-Tribal (N=30)	22.00	4.05990	0.74123			
3	**Agility (Shuttle Run)**	Tribal (N=30)	11.52	0.44813	0.08182	0.49	3.28*	0.002
		Non-Tribal (N=30)	12.02	0.68652	0.12534			
4	**Explosive Power (Standing Broad Jump)**	Tribal (N=30)	1.77	0.11994	0.02190	0.08	2.34*	0.022
		Non-Tribal (N=30)	1.68	0.14787	0.02700			
5	**Speed (50 Yard Dash)**	Tribal (N=30)	8.46	0.45074	0.08229	0.28	2.40*	0.020
		Non-Tribal (N=30)	8.75	0.47411	0.08656			
6	**Cardio Respiratory Endurance (600 Yard Run/Walk)**	Tribal (N=30)	2.29	0.24947	0.04555	0.19	2.21*	0.031
		Non-Tribal (N=30)	2.49	0.42585	0.07775			

***Significant at 0.05 level. (Table 't' value = 2.00)**

Itmay be seen from the table – XXIV that there are significance difference in Arm/Shoulder Muscular Strength and Endurance (Pull Ups), Abdominal/Hip Muscular Strength and Endurance (Bent Knee Sit Ups), Agility (Shuttle Run), Explosive power of leg extension muscles (Standing Broad Jump), Speed (50 Yard Dash), and Cardio Respiratory Endurance (600 Yard Run/Walk) between the Tribal and Non-Tribal school boys.

Since the 't' value required to be significant at 0.05 level for 58 degrees of freedom is 2.000. But the calculated values are 2.16, 2.10, 3.28, 2.34, 2.40 and 2.21 which are higher than the tabulated value.

The mean differences in Arm/Shoulder Muscular Strength and Endurance (Pull Ups) 1.46, Abdominal/Hip Muscular Strength and Endurance (Bent Knee Sit Ups) 3.66, Agility (Shuttle Run) 0.49, Explosive power (Standing Broad Jump) 0.49, Speed (50 Yard Dash) 0.28and Cardio Respiratory Endurance (600 Yard Run/Walk) 0.28 are found to be significant at 0.05 level of confidence in favor of Tribal school boys.

Hence the results of the study showed that Tribal school boys were better in all Physical Fitness variables whereas compared with Non-Tribal school boys.

The mean differences in Arm/Shoulder Muscular Strength and Endurance (Pull Ups), Abdominal/Hip Muscular Strength and Endurance (Bent Knee Sit Ups), Agility (Shuttle Run), Explosive power (Standing Broad Jump) , Speed (50 Yard Dash) and Cardio Respiratory Endurance (600 Yard Run/Walk) between Tribal and Non-Tribal school boys are shown in Bar diagram. Figure: 25 through 30.

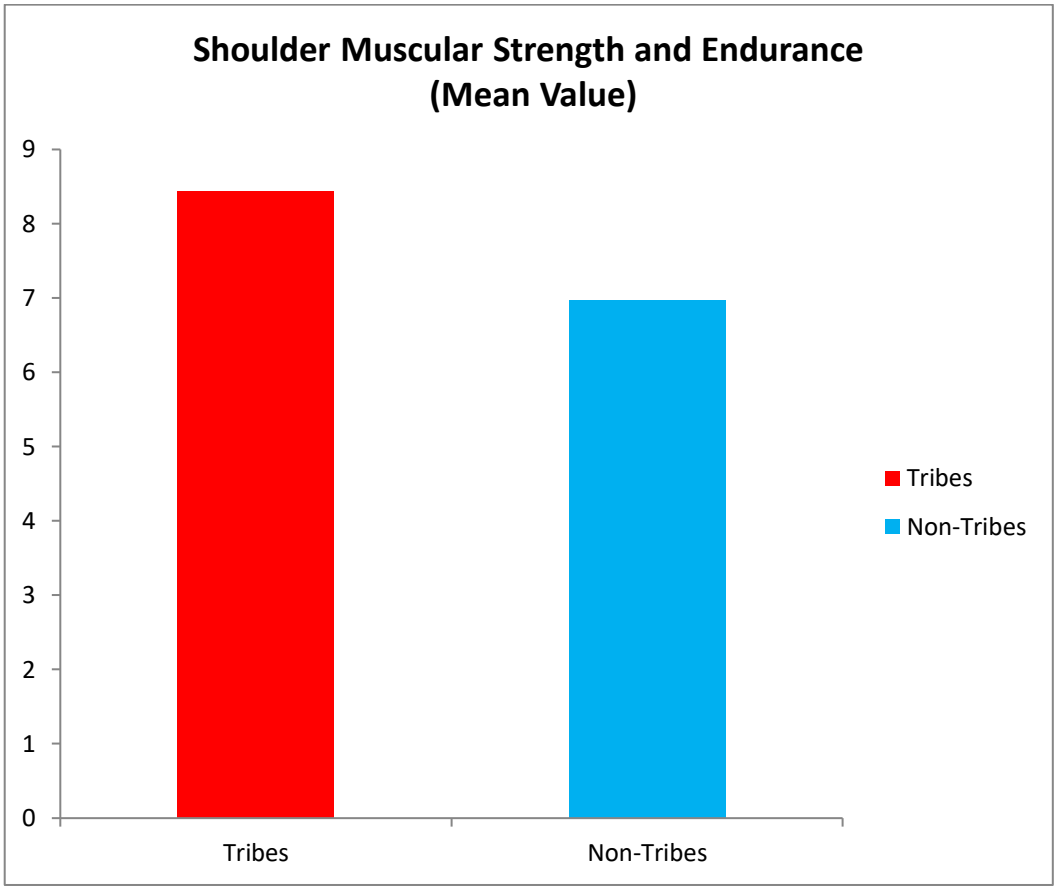


Figure 25: Bar Diagram showing the mean values of Tribal and Non-Tribal School boys on Shoulder Muscular Strength and Endurance (Pull –Ups).

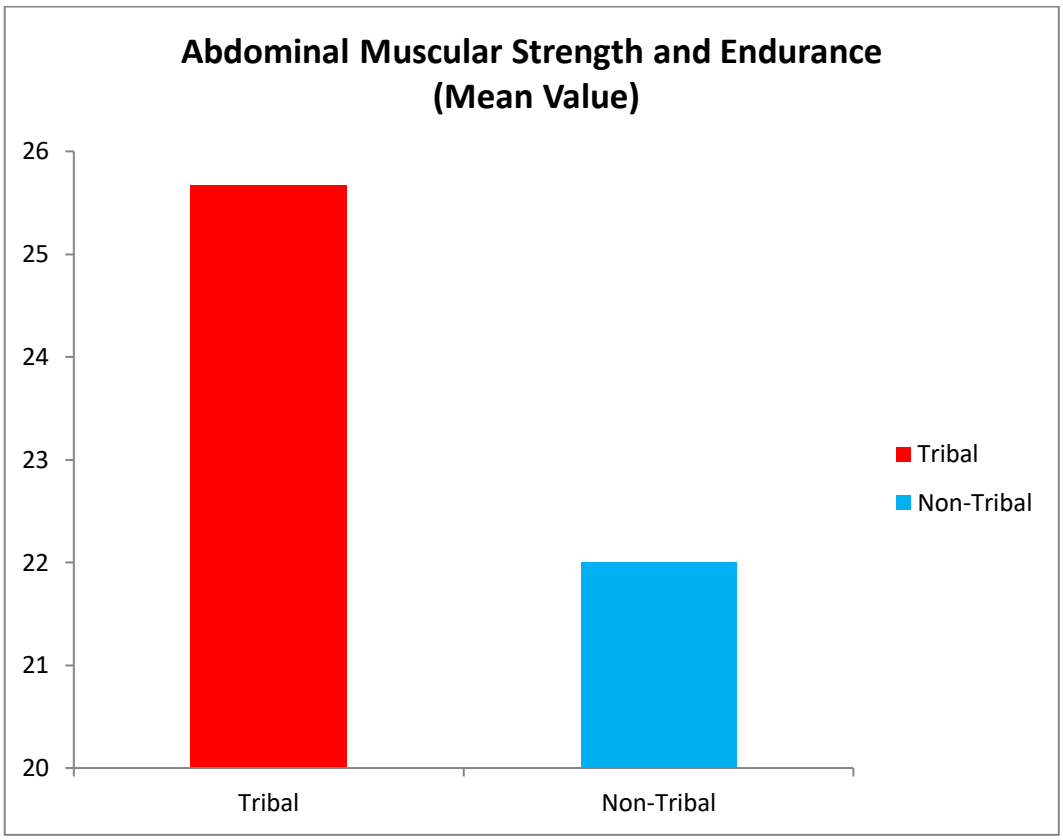


Figure 26:Bar Diagram showing the mean values of Tribal and Non-Tribal School boys on Abdominal Muscular Strength and Endurance (Bent Knee Sit-Ups).

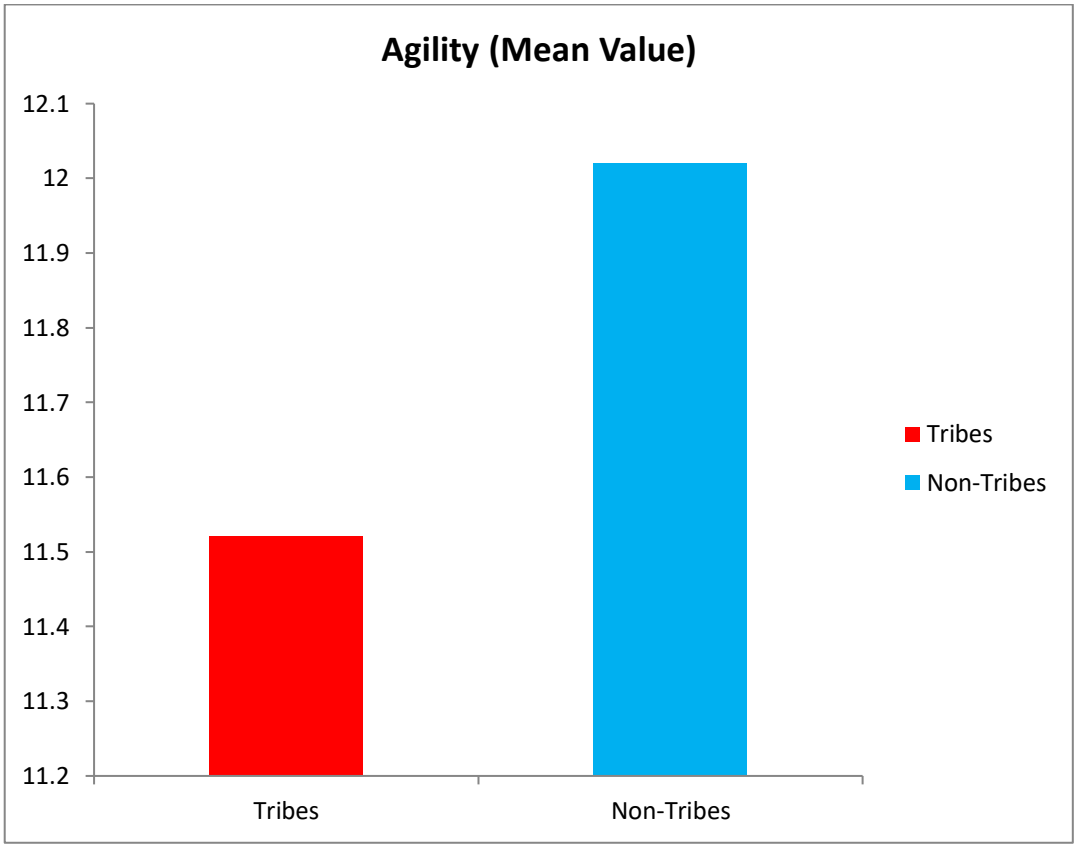


Figure 27:Bar Diagram showing the mean values of Tribal and Non-Tribal School boyson Agility (Shuttle Run).

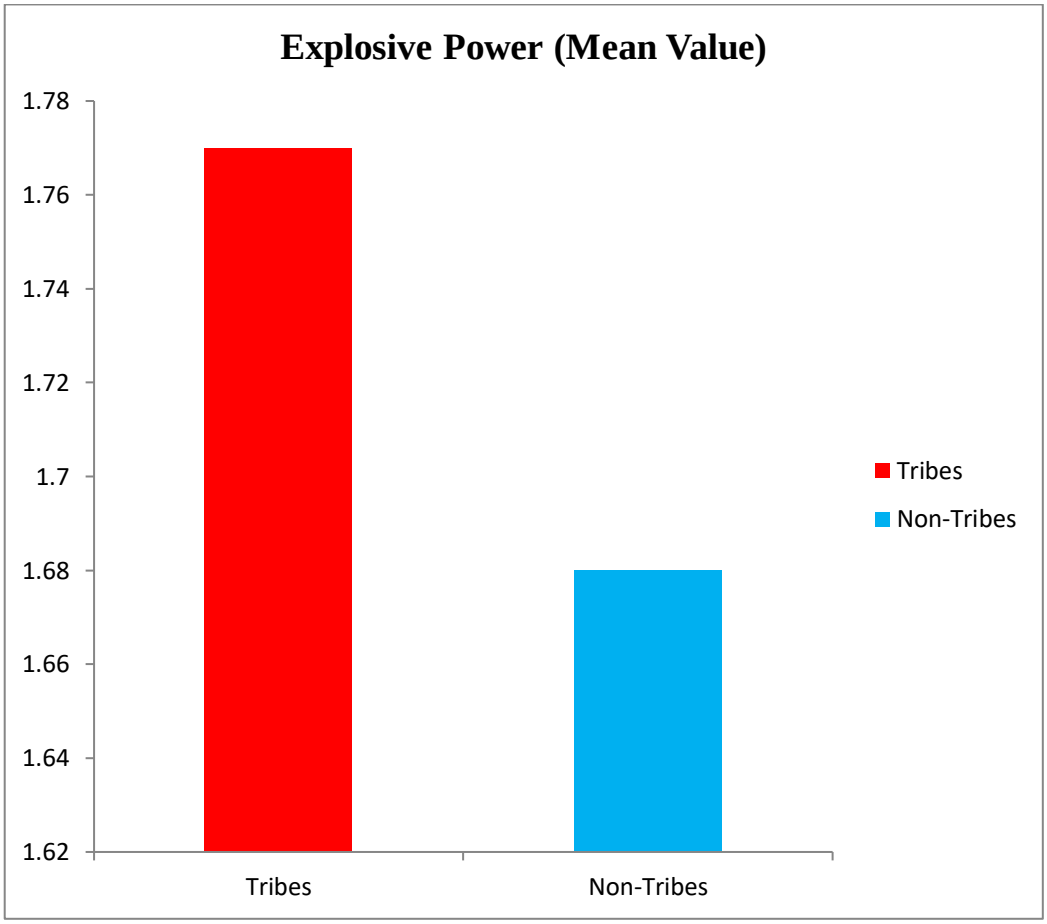


Figure 28:Bar Diagram showing the mean values of Tribal and Non-Tribal School boys on Explosive Power (Standing Broad Jump).

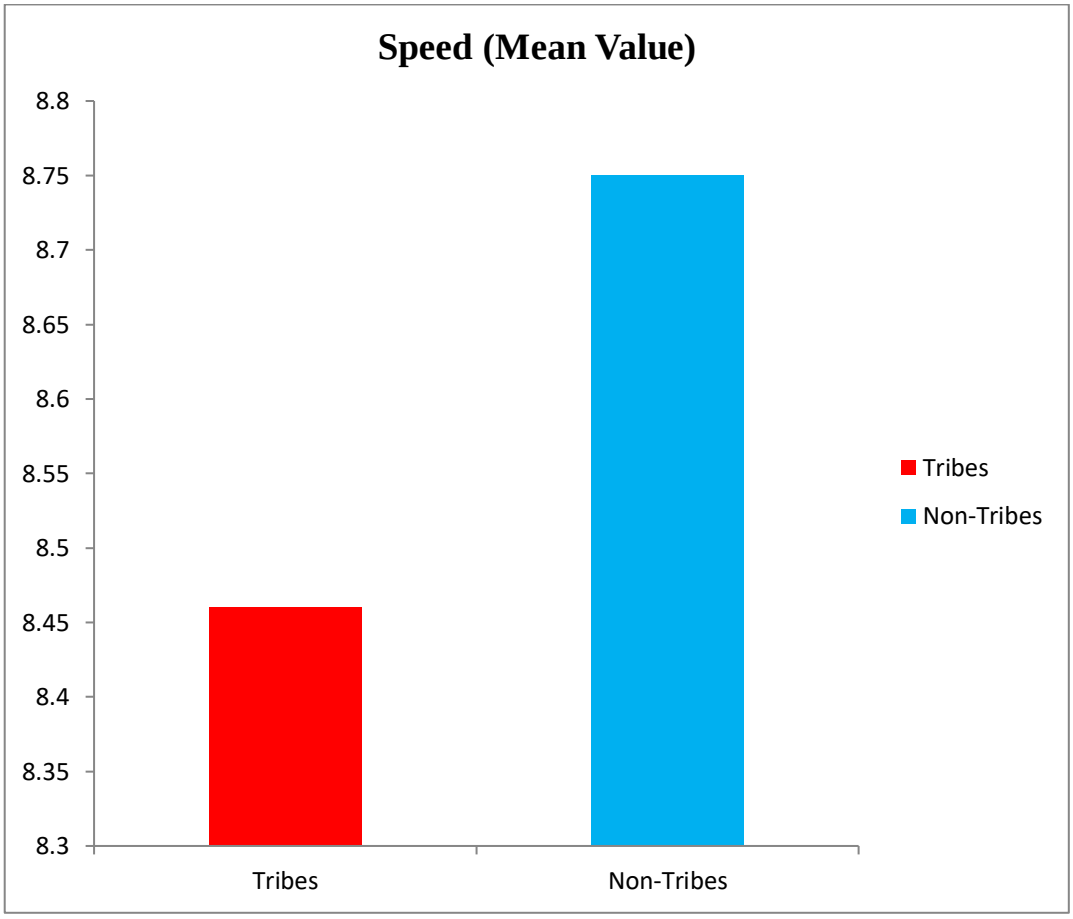


Figure 29:Bar Diagram showing the mean values of Tribal and Non-Tribal School boys on Speed (50 yard dash).

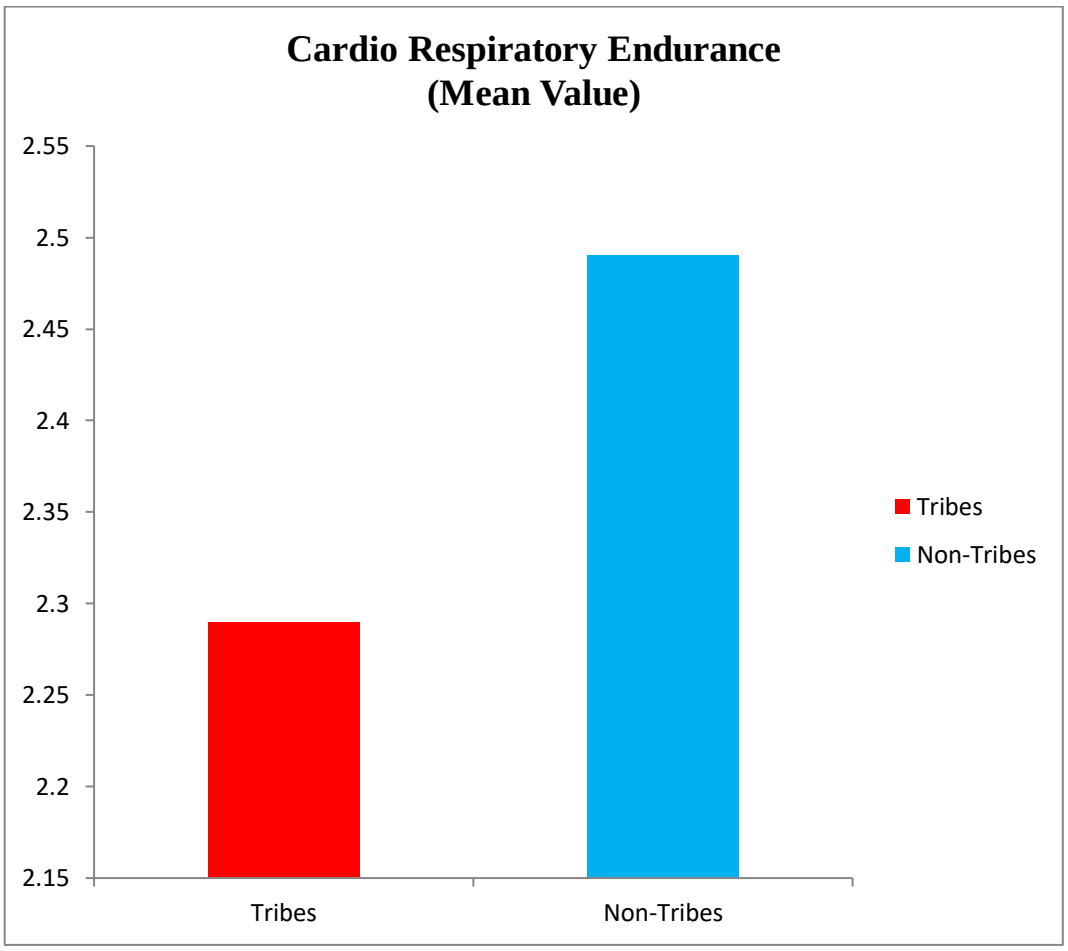


Figure 30:Bar Diagram showing the mean values of Tribal and Non-Tribal School boys on Cardio Respiratory Endurance(600 Yard Run/Walk).

PHASE– III

EXPERIMENTAL DESIGN

Further to find out the influence of Physical Activities Programme(IPAP) on Six test items of AAHPER Youth Fitness namely Pull-Ups (Muscular strength and endurance), Bent Knee Sit-Ups (Abdominal muscular strength and endurance), Shuttle run (Agility), Standing Broad Jump (Explosive power), 50 Yard Dash (Speed) and 600 Yard run/walk (Cardio respiratory endurance). To achieve the purpose of the study sixty school boys were selected at random from the Govt. Schedule Tribal Ashram High School at Alur, Kurnool District in Andhra Pradesh.Their age ranged from 13 – 15 years as per the school records. They were divided into two equal groups one is consider to be an experimental group and the other group considered to be a control group. The experimental group undergone specific Physical Activities Programme for a period of 12 weeks/ per week five periods each period consists of 45 minutes, whereas the control group was not involved any specific physical activities programme other than their regular physical activities programme. The data were collected before and after the 12 weeks of Physical Activities Programme on selected physical Fitness variables such as Shoulder Muscular strength and Endurance, Abdominal Muscular strength and endurance, Agility, Explosive Power, Speed and Cardio Respiratory Endurance for both experimental group and control group. Analysis of Covariance was applied to find out the significance improvement on them. Wherever 'F' ratio was found significant Scheffe's test was used as a post hoc test to determine to which of the paired mean differed significantly.

Table - XXV

Analysis of Covariance on Shoulder Muscular Strength and Endurance (Pull-Ups) of Physical Activities Group and Control Group

	Physical Activities Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	'F' Ratio	P-Values
Pre test Mean SD	5.80 2.29	5.97 2.11	Between Within	0.42 289.77	1 58	0.42 5.00	0.08	0.7783
Post test Mean SD	8.50 2.20	7.00 2.19	Between Within	33.75 289.50	1 58	33.75 4.99	6.76*	0.0118
Adjusted Post Test Mean	8.58	6.92	Between Within	40.90 47.15	1 57	40.90 0.83	49.44*	0.0000

***Significant at 0.05 levels.**
(Table value required for significance at 0.05 levels with df 1 & 58 and 1 & 57 are 4.01)

Table- XXV reveals the computation of pre test means on Shoulder MuscularStrengthand Endurance of physical activities group is 5.80 and control group is 5.97. The computed 'F' ratio value 0.08 for the pre test is less than that of table value 4.01, which is not significant at 0.05 level of confidence for degree of freedom 1 and 58.

The calculated post test mean of physical activities group is 8.50 and control group is 7.00. Further, the 'F' ratio for post test mean 6.76 is higher than the required table value, hence, it is statistically significant at 0.05 level of confidence. The results also reveals that the physical activities group significantly improved in Shoulder MuscularStrength and Endurance and its significant due to physical activitiesprogramme.

The calculated adjusted post test mean of physical activity group is 8.58 and control group is 6.92. The 'F' ratio calculated of adjusted post test mean is 49.44 is more than that of table value, hence, it is statistically significant and the results

speculate that the given physical activities treatment produced significant changes over Shoulder MuscularStrength and Endurance.

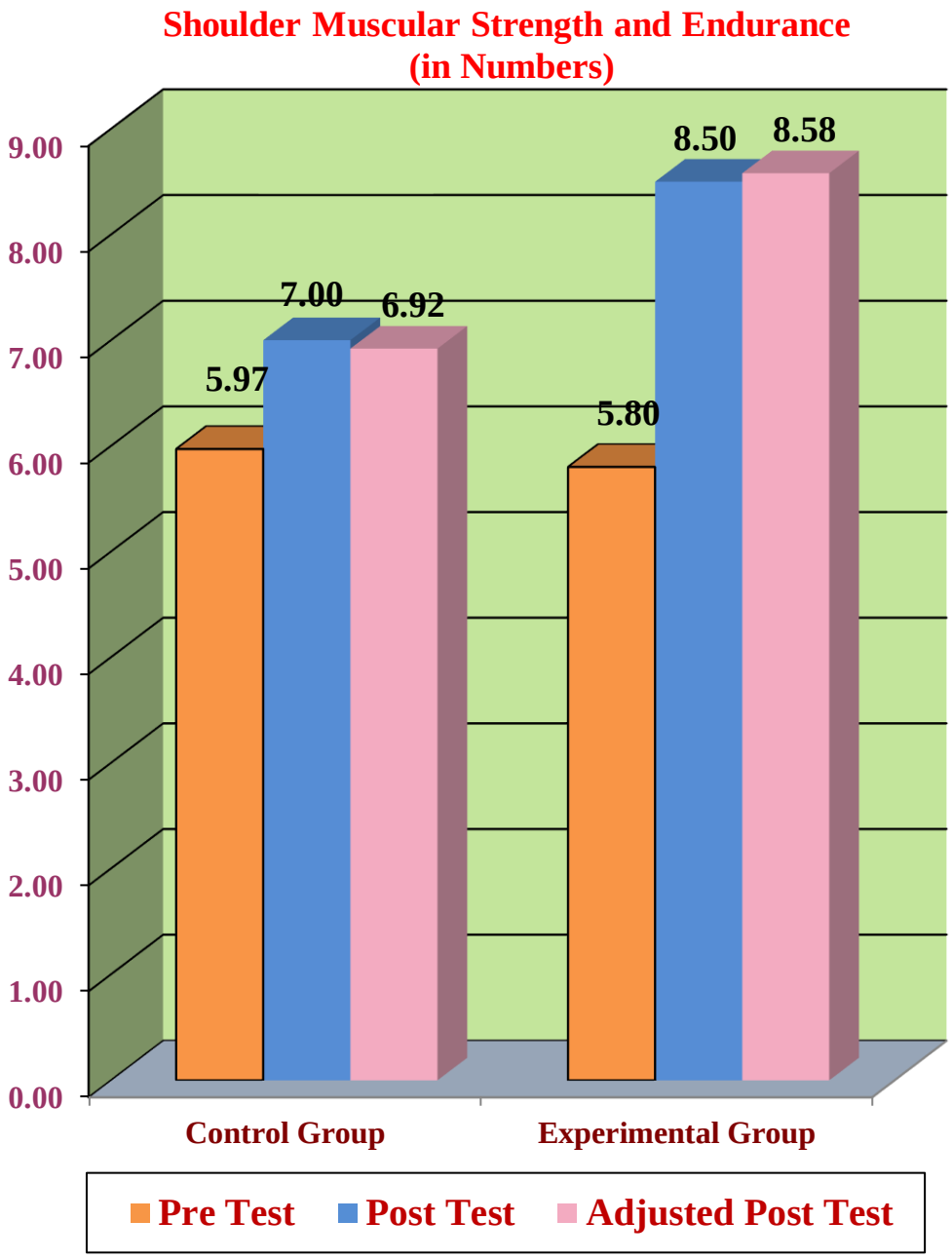


Figure 31: Mean Score of Pre test, Post test and Adjusted Post test of Experimental group and Control group on Shoulder Muscular Strength and Endurance (Pull-Ups).

Table - XXVI

Analysis of Covariance on Abdominal MuscularStrength andEndurance (Bent Knee Sit-Ups) of Physical Activities Group and Control Group

	Physical Activities Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Square	'F' Ratio	P-Values
Pre test Mean	21.37	21.33	Between	0.017	1	0.017		
SD	5.10	5.00	Within	1529.63	58	26.37	0.0063	0.9370
Post test Mean	25.43	23.00	Between	88.82	1	88.82		
SD	4.53	4.71	Within	1281.37	58	22.09	4.02*	0.0496
Adjusted Post Test Mean	25.42	23.01	Between	86.67	1	86.67		
			Within	82.42	57	1.45	59.94**	0.0000

***Significant at 0.05 levels.**
(Table value required for significance at 0.05 levels with df 1 & 58 and 1 & 57 are 4.01)

Table- XXVI reveals the computation of pre test means on Abdominal Muscular Strength and Endurance of physical activities group is 21.37 and control group is 21.33. The computed 'F' ratio value 0.0063 for the pre test is less than that of table value 4.01, which is not significant at 0.05 level of confidence for degree of freedom 1 and 58.

The calculated post test mean of physical activities group is 25.43 and control group is 23.00. Further, the 'F' ratio for post test mean 4.02 is higher than the required table value, hence, it is statistically significant at 0.05 level of confidence. The results also reveals that the physical activities group significantly improved in Abdominal Muscular Strength and Enduranceand it's significant due to physical activitiesprogramme.

The calculated adjusted post test mean of physical activities group is 25.42 and control group is 23.01. The 'F' ratio calculated of adjusted post test mean is 59.94 is more than that of table value, hence, it is statistically significant and the results

speculate that the given physical activities treatment produced significant changes over Abdominal Muscular Strength and Endurance.

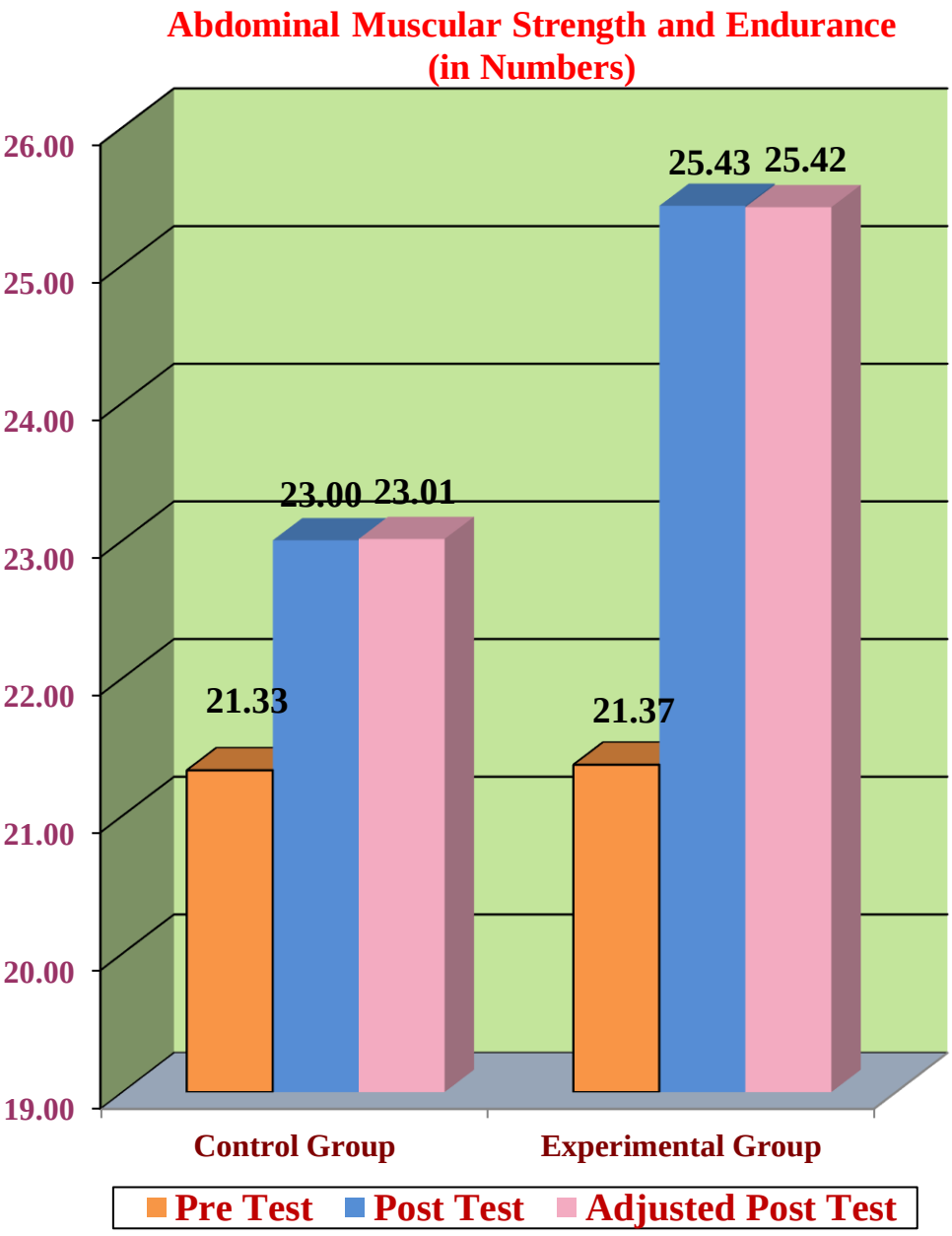


Figure 32: Mean Score of Pre test, Post test and Adjusted Post test of Experimental group and Control group on Abdominal Muscular Strength and Endurance (Bent Knee Sit-Ups).

Table -XXVII

Analysis of Covariance on Agility (Shuttle Run) of Physical Activities Group and Control Group

	Physical Activities Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	'F' Ratio	P-Values
Pre test Mean	11.63	11.84	Between	0.68	1	0.68		
SD	0.60	0.35	Within	14.54	58	0.25	2.73	0.1039
Post test Mean	9.30	10.99	Between	43.28	1	43.28		
SD	0.90	0.52	Within	32.20	58	0.56	77.96*	0.0000
Adjusted Post Test Mean	9.37	10.92	Between	34.28	1	34.28		
			Within	24.86	57	0.44	78.58*	0.0000

***Significant at 0.05 levels.**
(Table value required for significance at 0.05 levels with df 1 & 58 and 1 & 57 are 4.01)

Table- XXVII reveals the computation of pre test means on Agility of physical activities group is 11.63 and control group is 11.84. The computed 'F' ratio value 2.73 for the pre test is less than that of table value 4.01,which is not significant at 0.05 level of confidence for degree of freedom 1 and 58.

The calculated post test mean of physical activities group is 9.30 and control group is 10.99. Further, the 'F' ratio for post test mean 77.96 is higher than the required table value, hence, it is statistically significant at 0.05 level of confidence. The results also reveals that the physical activities group significantly improved in Agility and its significant due to physical activitiesprogramme.

The calculated adjusted post test mean of physical activity group is 9.37 and control group is 10.92. The 'F' ratio calculated of adjusted post test mean is 78.58is more than that of table value, hence, it is statistically significant and the results

speculate that the given physical activities treatment produced significant changes over Agility.

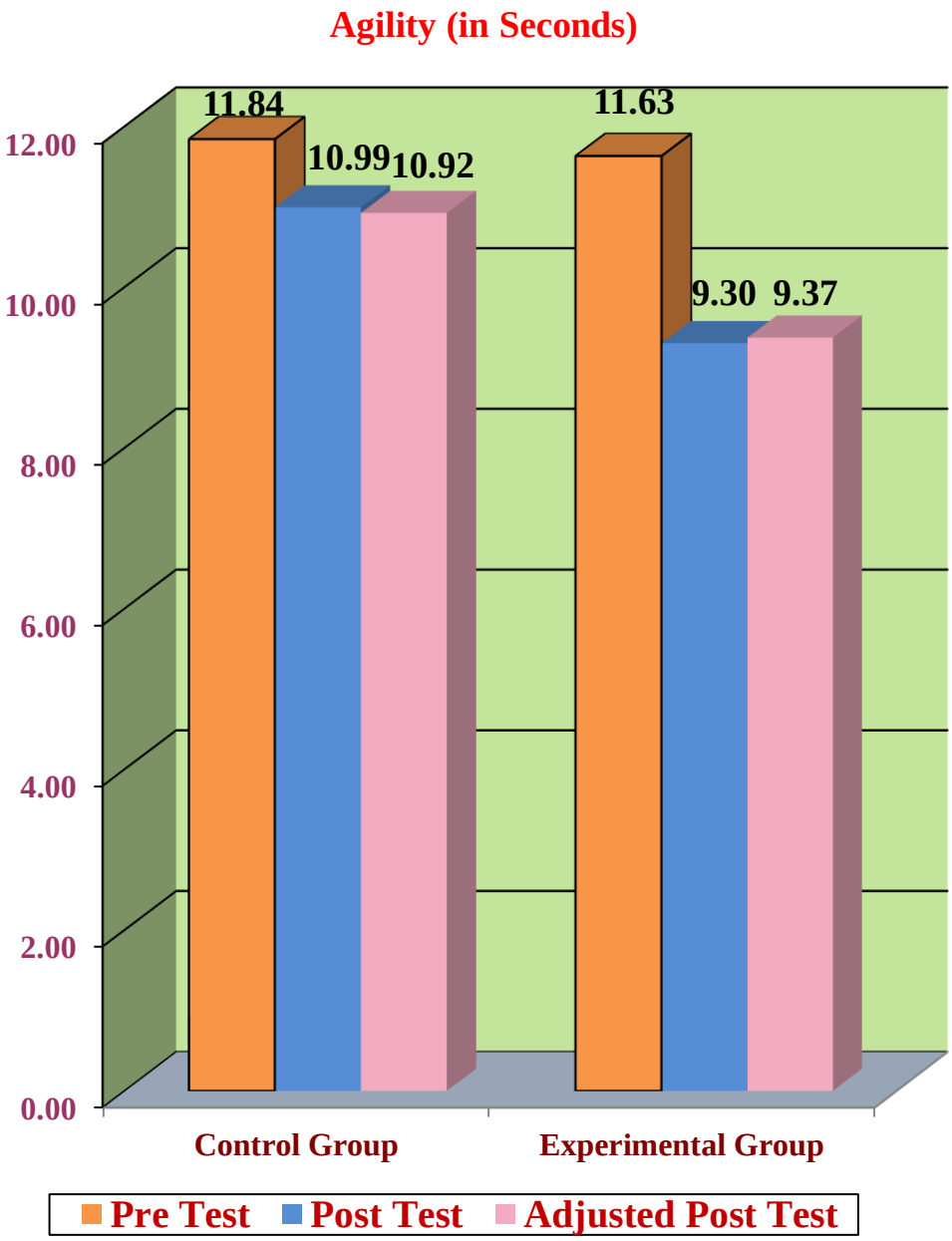


Figure 33:Mean Score of Pre test, Post test and Adjusted Post test of Experimental group and Control group on Agility (Shuttle Run).

Table - XXVIII

Analysis of Covariance on Explosive Power (Standing Broad Jump) of Physical Activities Group and Control Group

	Physical Activities Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	'F' Ratio	P-Values
Pre test								
Mean	1.62	1.63	Between	0.0023	1	0.0023		
SD	0.24	0.16	Within	2.57	58	0.04	0.05	0.8238
Post test								
Mean	1.79	1.62	Between	0.43	1	0.43		
SD	0.19	0.16	Within	1.86	58	0.03	13.52*	0.0005
Adjusted Post Test Mean	1.80	1.62	Between Within	0.48 0.51	1 57	0.48 0.01	53.23*	0.0000

***Significant at 0.05 levels.**
(Table value required for significance at 0.05 levels with df 1 & 58 and 1 & 57 are 4.01)

Table- XXVIII reveals the computation of pre test means on Explosive Power of physical activities group is 1.62 and control group is 1.63. The computed 'F' ratio value 0.05 for the pre test is less than that of table value 4.01, which is not significant at 0.05 level of confidence for degree of freedom 1 and 58.

The calculated post test mean of physical activities group is 1.79 and control group is 1.62. Further, the 'F' ratio for post test mean 13.52 is higher than the required table value, hence, it is statistically significant at 0.05 level of confidence. The results also reveals that the physical activities group significantly improved in Explosive Power and its significant due to physical activitiesprogramme.

The calculated adjusted post test mean of physical activity group is 1.80 and control group is 1.62. The 'F' ratio calculated of adjusted post test mean is 53.23 is more than that of table value, hence, it is statistically significant and the results

speculate that the given physical activities treatment produced significant changes over Explosive Power.

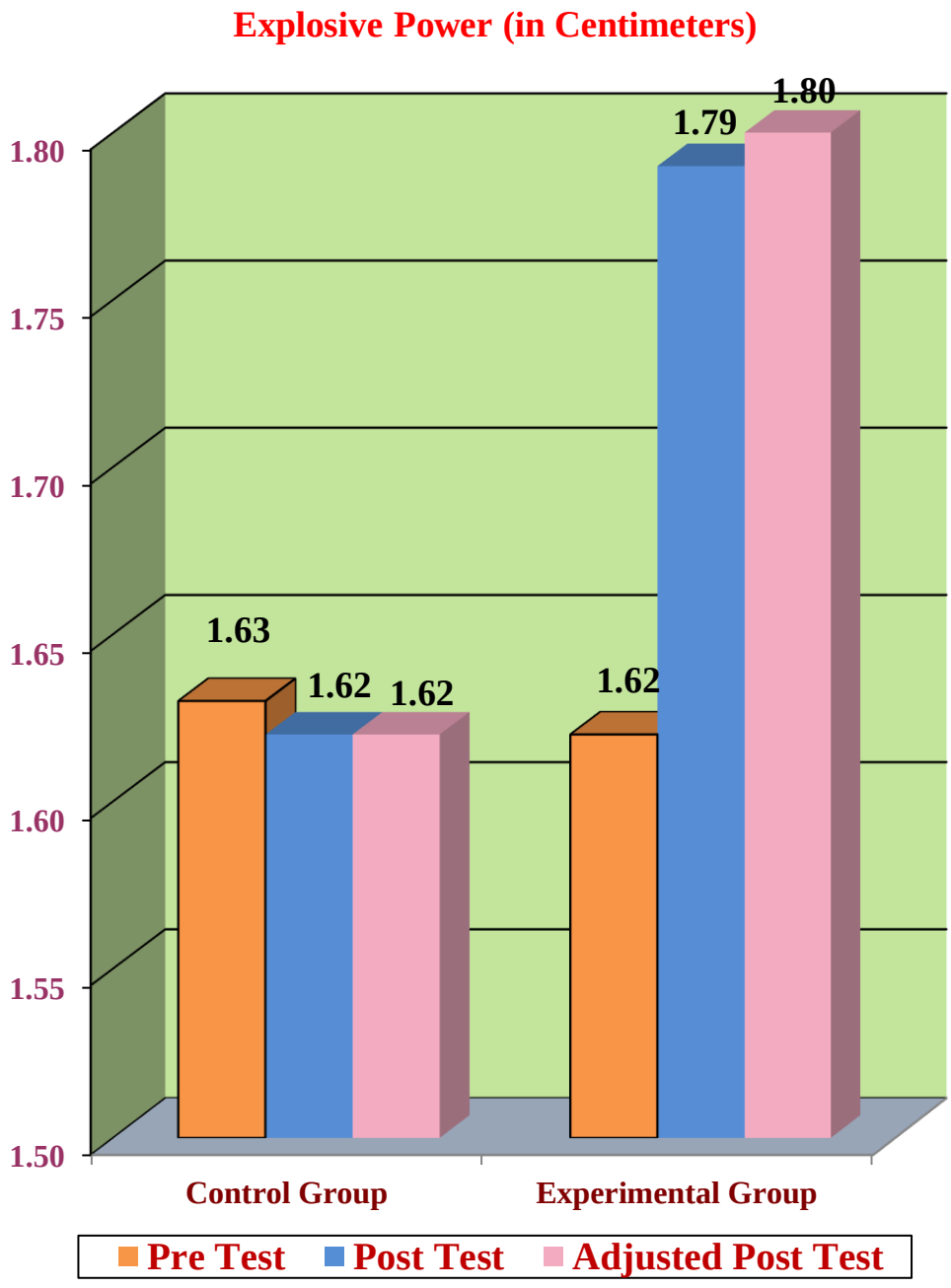


Figure 34: Mean Score of Pre test, Post test and Adjusted Post test of Experimentalgroup and Control group on Explosive Power

(Standing Broad Jump).

Table - XXIX

Analysis of Covariance on Speed (50 Yard Dash) of Physical Activities Group and Control Group

	Physical Activities Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	'F' Ratio	P-Values
Pre test								
Mean	8.23	8.44	Between	0.70	1	0.70		
SD	0.68	0.33	Within	17.01	58	0.29	2.37	0.1291
Post test								
Mean	11.84	9.11	Between	112.31	1	112.31		
SD	0.58	0.65	Within	22.80	58	0.39	285.75**	0.0000
Adj Post Test								
Mean	11.86	9.09	Between	110.60	1	110.61		
			Within	22.37	57	0.39	281.80**	0.0000

***Significant at 0.05 levels.**
(Table value required for significance at 0.05 levels with df 1 & 58 and 1 & 57 are 4.01)

Table- XXIX reveals the computation of pre test means on Speed of physical activities group is 8.23 and control group is 8.44. The computed 'F' ratio value 2.37 for the pre test is less than that of table value 4.01, which is not significant at 0.05 level of confidence for degree of freedom 1 and 58.

The calculated post test mean of physical activities group is 11.84 and control group is 9.11. Further, the 'F' ratio for post test mean 285.75 is higher than the required table value, hence, it is statistically significant at 0.05 level of confidence. The results also reveals that the physical activities group significantly improved in Speed and its significant due to physical activitiesprogramme.

The calculated adjusted post test mean of physical activity group is 11.86 and control group is 9.09. The 'F' ratio calculated of adjusted post test mean is 281.80 is more than that of table value, hence, it is statistically significant and the results

speculate that the given physical activities treatment produced significant changes over Speed.

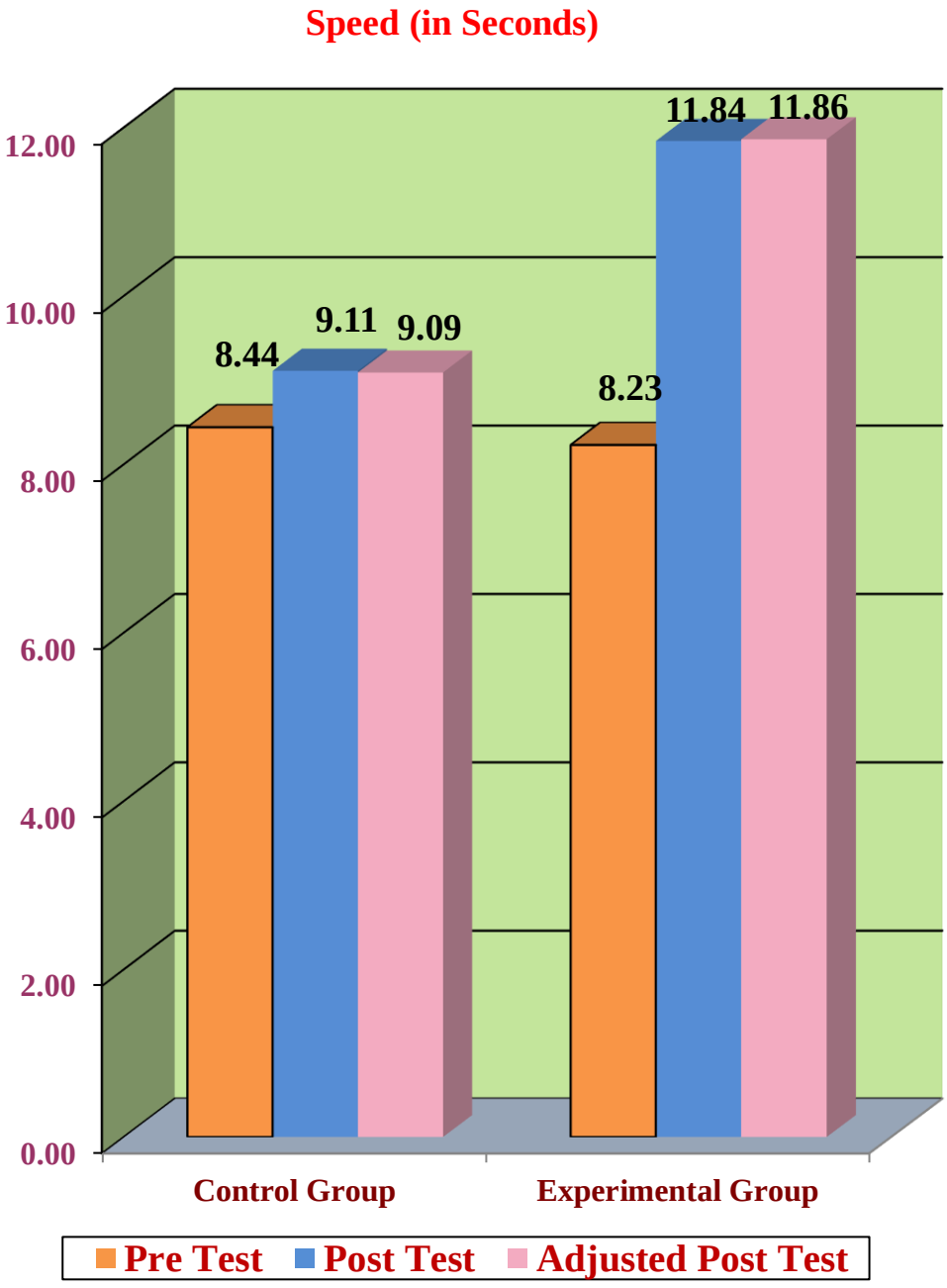


Figure 35: Mean score of Pre test, Post test and Adjusted Post test of Experimental Group and Control group on Speed (50 Yard Dash).

Table - XXX

Analysis of Covariance on Cardio Respiratory Endurance

(600 Yard Run/Walk) of Physical Activities Group and Control Group

	Physical Activities Group	Control Group	Source of Variance	Sum of Squares	df	Mean Square	'F' Ratio	P-Values
Pre test								
Mean	2.47	2.52	Between	0.04	1	0.04		
SD	0.39	0.34	Within	8.03	58	0.14	0.28	0.5987
Post test								
Mean	2.06	2.42	Between	1.89	1	1.89		
SD	0.30	0.33	Within	5.97	58	0.10	18.38**	0.0001
Adj Post Test								
Mean	2.08	2.40	Between	1.56	1	1.56		
			Within	2.78	57	0.05	31.87**	0.0000

***Significant at 0.05 levels.**
(Table value required for significance at 0.05 levels with df 1 & 58 and 1 & 57 are 4.01)

Table- XXX reveals the computation of pre test means on Cardio Respiratory Endurance of physical activities group is 2.47 and control group is 2.52. The computed 'F' ratio value 0.28 for the pre test is less than that of table value 4.01, which is not significant at 0.05 level of confidence for degree of freedom 1 and 58.

The calculated post test mean of physical activities group is 2.06 and control group is 2.42. Further, the 'F' ratio for post test mean 18.38 is higher than the required table value, hence, it is statistically significant at 0.05 level of confidence. The results also reveals that the physical activities group significantly improved in Cardio Respiratory Endurance and itssignificant due to physical activities programme.

The calculated adjusted post test mean of physical activities group is 2.08 and control group is 2.40. The 'F' ratio calculated of adjusted post test mean is 31.87 is more than that of table value, hence, it is statistically significant and the results

speculate that the given physical activities treatment produced significant changes over Cardio Respiratory Endurance.

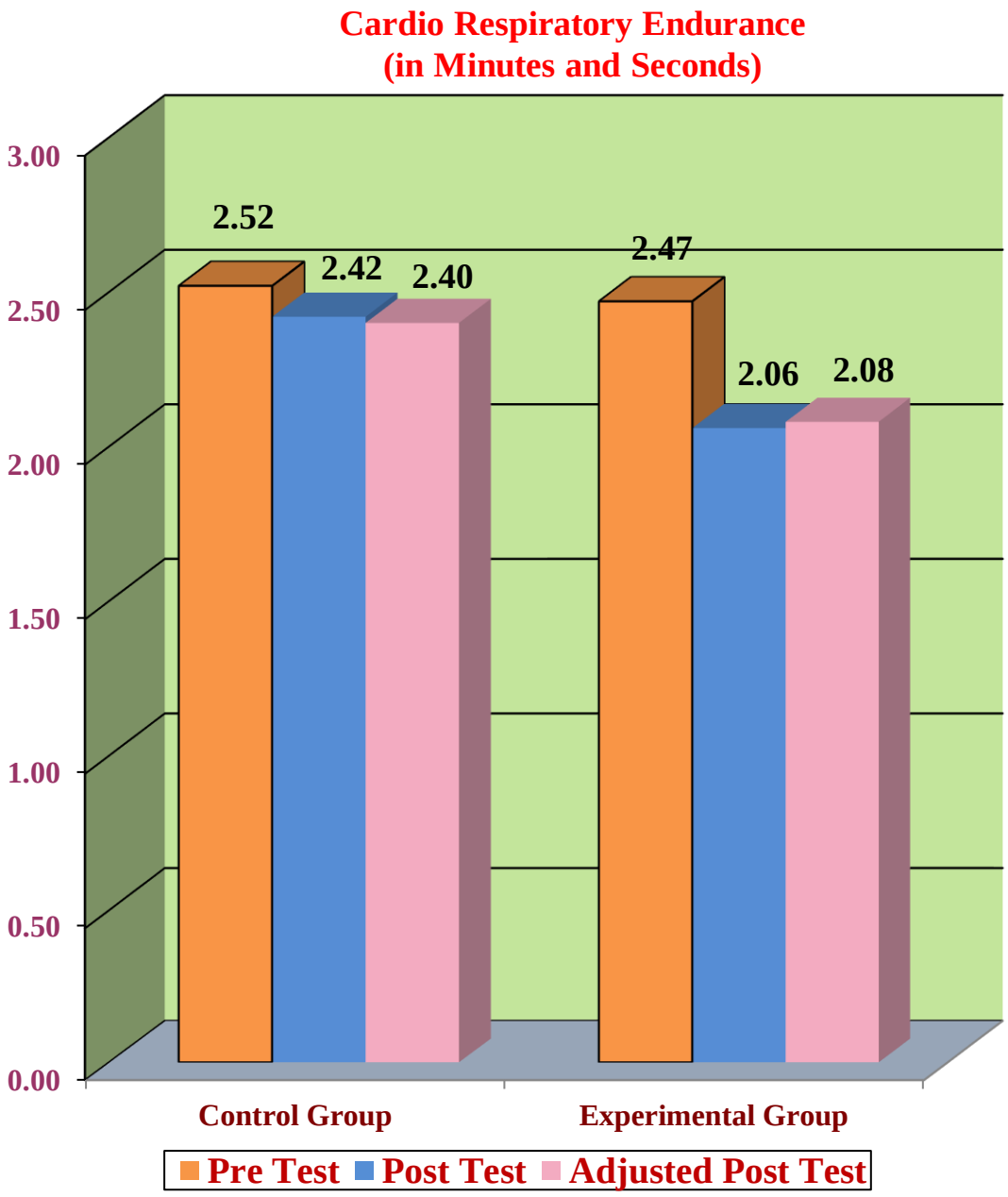


Figure 36: Mean Score of Pre test, Post test and Adjusted Post test of Experimental groupand Control group on Cardio Respiratory Endurance (600 Yard Run/Walk).

DISCUSSION ON FINDINGS

Based on the data three different scales were prepared such as Hull Scale, T-Scale and Percentile Scale. Based on their age and performance the study revealed that there is a significant differences among the age groups in different items of physical fitness variables that is 15 years boys are superior to 14 and 13 years boys and 14 years boys were superior to 13 years boys.

The obtained age wise differences in performance by the subjects on different items of physical fitness may be considered the logical definite differences accepted between ages. It is assumed that the increase in age has increasing effect on physical fitness performance up to a certain age, because an individual gains maturity in vascular forms and structure, acquiring physiological stability in functions of various systems and develops positive attitude, techniquesand styles towards physical activity. These findings of the study are in conformity with the results of **Moorthy**(1982) **Suresh** (1993) **James** (1990) **Sirijarawong and Kosa**(2006).

The investigator further acknowledges the following schemes of Government of India, in support of this research study.

1. A National Plan of Physical Education and Recreation was prepared- by the Central Advisory Board of Physical Education and Recreation, to assess the physical fitness status of school going boys and girls.

2. The All India Seminar on Physical Education recommended the Motor Fitness Test, Kraus-Weber Test, and Canadian Fitness Test, to assess the physical fitness level of the school boys and girls and also recommended to prepare norms for various age groups and sex.

3. The Central Board of Secondary Education recommended preparing physical fitness norms for each state for various age groups, and also taken vigorous steps to

introduce physical education as an academic subject at school level to improve physical fitness standard.

4. The National Physical Efficiency Drive was launched from the year 1959-60, the purpose of this scheme was to create consciousness and enthusiasm among the people of our country for physical fitness.

Further the collected data were analyzed and Hull score were worked out for all the seven hundred eighty six subjects and Graded them in each Physical fitness variable separately such as Excellent, Very Good, Good, Above Average, Average and Failed

The second hypothesis of the study is that there would be a significant difference in selected Physical fitness variables among Tribal School boys and Non-Tribal School boys.

The results of the study revealed that there was significant differences in "Pull – Ups, Bent – Knee Sit – Ups, Agility, Standing Broad Jump, 50 Yard Dash and 600 Yard Run/Walk," showed significant differences in favours of Tribal school boys.

The results of present study indicate that Tribal school boys are better in Physical Fitness than the Non-Tribal counterpart. The present study finding were also in line with the studies conducted by **Poddar and Subramaniam(2014)Meena et al., (2012), Ajay Kumar and Agashe (2015)**

The result of the study reveals that Physical fitness of Tribal and Non - Tribal school boys of Kurnool District of Andhra Pradesh are almost at the same level. But on the whole, the Tribal school boys have more physical fitness than the Non - Tribal school boys.

The third hypothesis of the study is that there would be a significant improvement in physical fitness variables due to the influence of physical activities programme.

The results of the study showed that there was significant improvement on selected dependent variables such as "Pull – Ups (Shoulder Strength), Bent Knee Sit Ups(Muscular Strength and Endurance), Shuttle run (Agility), Standing Broad Jump (Explosive power), 50 Yard Dash (Speed) and 600 Yard Run/Walk (Cardio vascular endurance)," due to the Influence of Physical Activities Programme.

According to **Aires** and **Other** (2010) were conducted that Intensity of Physical activity correlated with cardio respiratory fitness. The results of the study showed that intensity of physical activities was significantly correlated with cardio respiratory fitness.

According to**Gaya** and **Others** (2008) were conducted study that physical activity associated with obesity and motor fitness .The results of the study clearly showed that physically active children were less likely to be overweight or obese and achieved more jumping ability than less active children in motor test.

According to **Bilinski**and**Others** (2005) states that children's involvement in out of school organized physical activities achieved optimal health benefits than children's physical activity and their participation in physical activities in school.

According to**Powell** (2009) physical inactivity has led to deficient levels of health related fitness.

According to **Shamli**(2010) found that physical activities significantly improve physiological fitness level such as flexibility, muscular endurance, muscular strength and cardio-vascular endurance, muscular strength of urban students were higher than the rural students where as in flexibility muscular endurance and cardio-vascular endurance rural students were higher than the urban students.

The result of the study indicated that there was significant difference on physical fitness variables due to the influence of physical activitiesprogramme when compared with control group. The above findings are in consonance with the studies conducted by **Baquet et al.** (2009)

Hence it is concluded from the above literature and also from the result of the present study that a systematically well designed curriculum and well planned physical activities programme essential to improve all the Physical fitness variables which are very necessary components to Tribal school boys to keep healthy and physically fit.

DISCUSSION ON HYPOTHESIS

In the early the investigator had formulated the following hypothesis.

At first it was mentioned that there may be significant differences among the various age groups in different items of AAHPERD Youth fitness test in order to ascertain whether the different age groups involved in this study might be considered separately for preparation of norms or they might be grouped together. The results of study revealed that one or the other age groups considered in this study exposed significant differences on the different items of AAHPERD Youth fitness test. Hence the first hypothesis of the present study was proved positive.

In the second hypothesis, it was noted that Tribal school boys may have better Physical fitness than the Non - Tribal school boys. The results of study revealed that there was significant differences between Tribal and Non - Tribal school boys in "Pull-ups, (Muscular strength), Bent Knee Sit-ups (Abdominal muscular strength and endurance), shuttle run (agility), Standing Broad Jump (Explosive Power), 50 Yard dash (Speed) and 600 yard run/walk (Cardio respiratory endurance)." All the physical fitness variables showed significant differences in favors of Tribal school boys. Hence, the second hypothesis of the study was accepted.

In the third hypothesis, it was mentioned that there would be significant improvement on selected Physical fitness variables due to the Influence of Physical Activities Programme (IPAP). The result of the study showed that there was significant improvement on selected Physical fitness variables due to the Influence of Physical Activities Programme. Hence the third hypothesis of study was accepted.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

The purpose of the study was to investigate "survey of physical fitness among tribal school boys of Kurnool district of Andhra Pradesh and the influence of physical activity Programme on them." To accomplish this research study, Nine Tribal schools at Kurnool were selected at random keeping in view of the strength of the students on roll. Out of the total population of 1388 samples, 786 subjects were drawn up random leading to twenty percent of the total subjects. According to the school records, their age have been ranged from 13 to 15 years. They were studying in the classes from eighth to tenth. The subjects were administered with AAHPER Youth Fitness Test, and hence the selected study was "survey of physical fitness among tribal school boys of Kurnool District of Andhra Pradesh."In this study one of the major objectives is preparing norms for physical fitness for tribal school boys. The data on these items of the tests were collected in accordance with the standard procedure laid down in the literature of AAHPER Youth Fitness Test Manual, 1976. The data for each test items were gathered for all the subjects separately and then pooled age wise for preparing norms.

To examine the significance of different among the performance made by the subjects belonging to various age group employed in this study on a different items of AAHPER Youth Fitness Test, analysis of variance was applied. It was found that various age group considered in this study, exhibited significant differences at 0.05 level in all the items of AAHPER Youth Fitness Test. For all the 'F' ratio obtained for different items of AAHPER Youth Fitness Test which were significant Scheffe'S Post Hoc Test was applied to study the significance of differences between the paired means of various age group on different items of AAHPER Youth Fitness test.

Three different scales namely, Percentile Scale, Hull Scale and T-Scale were computed for physical fitness among tribal school boys of the Kurnool District of Andhra Pradesh.

In addition, a comparison of physical fitness between the tribal school boys non-tribal school boys of Kurnool District of Andhra Pradesh had been undertaken and also the collected data were analysed and hull score were worked out in each physical fitness variables separately for all the Seven hundred and eight six subjects in order to grade them such excellent, very good, good, above average, average, failed.

Further to find out the "influence of Physical Activities programme on physical fitness variables namely muscular strength and endurance, abdominal muscular strength and endurance, agility, explosive power, speed and cardio respiratory endurance." To achieve the purpose of the study sixty Tribal school boys were selected as subjects at random from Schedule Tribe Ashram High School at Alur, Kurnool District of Andhra Pradesh. Their age ranged from 13 to 15 years. The subjects were divided into two equal groups namely experimental group and control group. Each group consists of 30 subjects. Experimental group underwent Physical Activities programmes for the period of twelve weeks. Whereas Control group did not participate any specific physical activities programme other than their regular activities programme as per their school curriculum. The data were collected before and after the experimental period on muscular strength and endurance, abdominal muscular strength and endurance, agility, explosive power, speed and cardio respiratory endurance. The obtained data from experimental group and control group were statistically analyzed with analysis of covariance (Ancova).

5.2 CONCLUSIONS

Based on the result of the study the following conclusions were drawn.

- Age wise norms were supported by the age wise mean difference in their performance on Pull Ups, Bent Knee Sit Ups, Shuttle Run, Standing Broad Jump, 50 Yard Dash and 600 Yard Run/Walk test.
- Different scales namely Percentile Scale, Hull Scale and T-Scale were constructed separately for Pull Ups, Bent Knee Sit Ups, Shuttle Run,

Standing Broad Jump, 50 Yard Dash and 600 Yard Run/Walktest based on various age groups considered in this study.

- Influence of Physical Activities Programme had significantly improved all the Physical fitness variables when compared with the Control group namely Pull Ups, Bent Knee Sit Ups, Shuttle Run, Standing Broad Jump, 50 Yard Dash and 600 Yard Run/Walk test.

- This study shows that the Tribal School boys are better than the Non-Tribal School boys in Pull-ups, Bent Knee Sit Ups, Shuttle run, Standing broad jump, 50 yard dash and 600 yard run / walk test.

5.3 RECOMMENDATIONS

The following recommendations have been made based on the results of this study.

- Similar study may be conducted throughout the Country to formulate National level norms as a standard reference for further Normative research work.

- State wise norms may be constructed in relation to this topic so as to have a comparative study between the States.

- Such types of studies may be persuaded selecting the subjects on the basis of socio-economic status throughout the State of Andhra Pradesh and also a nationwide study may be undertaken.

- Research study on this problem may be undertaken for different age groups of boys and girls throughout the State so as to facilitate the assessment of fitness level and a comparative study among them.

- To inculcate a sense of maintaining the physical fitness among the student community individually and collectively and thus making physical education as a compulsory subject at school and college levels in Andhra Pradesh.

- Adequate facilities for Games and Sports may be provided for all the villages.

- Competitions may be conducted district and inter district wise.
- Physical fitness tests may be conducted periodically at school and college levels so as to estimate the level of physical fitness every individual student and to recommend the remedial measures if any.
- Testing centre may be established for measuring the level of physical fitness equipped with infrastructure facilities and qualified personal for every region of Andhra Pradesh.
- Physical fitness awareness week may be conducted annually throughout the State in order to have fit citizens.
- Physical fitness programme may be set up now and then exclusively for sportsmen to improve their performance in high level sports competitions in all the educational institutions.
- Similar studies may be conducted exclusively for girls of different age group.
- Studies may also be conducted to compare the physical fitness of both the sexes of the same age.
- Similar studies may also be conducted on other two states of Telangana and Andhra Pradesh.

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Appendix - A

GOVERNMENT OF ANDHRA PRADESH
TRIBAL WELFARE DEPARTMENT

From
Sri H.SUBASHANA RAO, M.A., B.Ed.,
District Tribal Welfare Officer,
Kurnool.

To
The Hostel Welfare Officer,
Govt., S.T.Boys Hostel, Allagadda(V & M),
Kurnool.
The Hostel Welfare Officer,
Govt., S.T.Boys Hostel, Panyam(V & M),
Kurnool.
The Hostel Welfare Officer,
Govt., S.T.Boys Hostel, Atmakur(V & M),
Kurnool.
The Hostel Welfare Officer,
Govt., S.T.Ashram High School,
Alur(V & M), Kurnool(Dist.,)
The Head Master,
Govt., S.T.Ashram High School,
Mahanandi(V & M), Kurnool(Dist.,).

Rc.No.T1/Spl/2016, dt.25.06.2016

Sir,

Sub: Tribal Welfare Department, Kurnool District-Sri P.Lakshman Naik, Ph.D., Pondicherry Universiry, Pondicherry- Study related to his Ph.D.,- Permission-Requested-Pemitted to conduct a study in our Tribal Welfare Institutions of various Mandals-Orders-Issued-Reg.

Ref: Lr.Rc.No.PU/PES/Ph.D/2015-16 Dt.14.06.2016 of the Professor, Department of Physical Education & Sports, Pondicherry Univerisity, Pondicherry.

* * *

It is to inform that, Dr. P.K.Subramaniam, Research Supervisor and Professor, Department of Physical Education & Sports, Pondicherry Univerisity, Pondicherry has informed, Mr.P.Lakshman Naik is pursuing Ph.D.full time programme in the Department of Physical Education and Sports, Pondicherry University, Pondicherry under his supervision and guidance and he would like to conduct a study in our Tribal Welfare institutions related to his Ph.D., thesis and requested to give the permission for the same.

In view of the above, the Hostel Welfare Officers and Head Masters concerned are hereby instructed to co-operate and extent possible support to Mr.P.Lakshman Naik, Ph.D., Student, Pondicherry University, Pondicherry to conduct a study in your institution related to his Ph.D., thesis in Physical Education and Sports.

Yours faithfully,

H. Subhashana Rao 25/6/2016.

Dist., Tribal Welfare Officer,
Kurnool

To
Mr.P.Lakshman Naik, Ph.D.,
H.No.5/122, Gorumankonda Thanda(Vill),
Bethamcherla(mdl), Kurnool(Dist.,)-518599

Appendix - A (Continued)

A.P.T.W.R. SCHOOL (BOYS), SRISAILAM DAM EAST, KURNOOL DISTRICT.

CERTIFICATE

This is to certify that Mr.P.LAKSHMAN NAIK, Ph.D., Research Scholar of Department of Physical Education and Sports,Pondicherry University, Puducherry, has collected his data for pilot study (survey) on the title **"Survey of physical Fitness among Tribal School Boys of Kurnool District of Andhra Pradesh and the Influence of Physical Activity programme on Them".**

Place: Kurnool
Date : 28-09-16

Seal :

[S.M.A. Hafeez Quadri]
Principal

PRINCIPAL
...RESIDENTIAL SCHOOL (BOYS)
SRISAILAM DAM EAST
KURNOOL (DIST.)

Appendix - A (Continued)

Government of Andhra Pradesh
Department of School Education

CERTIFICATE

This is to certify that Mr. P. LAKSHMAN NAIK, Ph.D., Research Scholar of Department of Physical Education and Sports, Pondicherry University, Puducherry, has collected his data for pilot study (survey) on the title "**Survey of Physical Fitness among Tribal School Boys of Kurnool District of Andhra Pradesh and the Influence of Physical Activity Programme on Them**".

Place: Kurnool
Date:

Seal :

A.P.T.W.R. SCHOOL OF EXCELLENCE
SRISAILAM, DIST. KURNOOL

[ ]
Head Master

PRINCIPAL 28/7/16
A.P.T.W. RESIDENTIAL
SCHOOL OF EXCELLENCE
SRISAILAM DAM EAST-518 102.
KURNOOL DIST.

Appendix - A (Continued)

Government of Andhra Pradesh
Department of School Education

CERTIFICATE

This is to certify that Mr. P. LAKSHMAN NAIK, Ph.D., Research Scholar of Department of Physical Education and Sports, Pondicherry University, Puducherry, has collected his data for pilot study (survey) on the title "**Survey of Physical Fitness among Tribal School Boys of Kurnool District of Andhra Pradesh and the Influence of Physical Activity Programme on Them**".

Place: Kurnool
Date:

Seal : Govt. S.T. Ashram High School Dt. Alur. Kurnool (Dt.)

K. URUKUNDAPPA
[ ]
Head Master

Head Master
Govt. S.T. Ashram High School
ALUR. Kurnool (Dist.)

Appendix - A (Continued)

Government of Andhra Pradesh
Department of School Education

CERTIFICATE

This is to certify that Mr. P. LAKSHMAN NAIK, Ph.D., Research Scholar of Department of Physical Education and Sports, Pondicherry University, Puducherry, has collected his data for pilot study (survey) on the title "**Survey of Physical Fitness among Tribal School Boys of Kurnool District of Andhra Pradesh and the Influence of Physical Activity Programme on Them**".

Place: Kurnool
Date:

Seal :

Govt. S.T. Ashram High School ★ Dt. Kurnool (Dt.) ★ Ratana (V), Tuggali (M).

[HEADMASTER]
Head Master

Govt. S.T. Ashram High School
RATHANA (Vil.), Tuggali (M).
Kurnool Dist. Pin: 518 390

Appendix - A (Continued)

Government of Andhra Pradesh
Department of School Education

CERTIFICATE

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Place: Kurnool
Date:

Seal : GOVERNMENT S.T. HIGH SCHOOL Date:

[ ]
Head Master

GAZETTED HEAD MASTER
Govt. S.T. High School,
Bairluty Gudem, Atmakur (M)
Kurnool(Dt.)

Appendix - A (Continued)

Government of Andhra Pradesh
Department of School Education

CERTIFICATE

This is to certify that Mr. P. LAKSHMAN NAIK, Ph.D., Research Scholar of Department of Physical Education and Sports, Pondicherry University, Puducherry, has collected his data for pilot study (survey) on the title "**Survey of Physical Fitness among Tribal School Boys of Kurnool District of Andhra Pradesh and the Influence of Physical Activity Programme on Them**".

Place: Kurnool
Date:
Seal :

[Head Master]
Head Master
Govt. T.W. Ashram High School
MAHANANDI, Kurnool(Dt) A.P.

Appendix - A (Continued)

Government of Andhra Pradesh
Department of School Education

CERTIFICATE

This is to certify that Mr. P. LAKSHMAN NAIK, Ph.D., Research Scholar of Department of Physical Education and Sports, Pondicherry University, Puducherry, has collected his data for pilot study (survey) on the title "**Survey of Physical Fitness among Tribal School Boys of Kurnool District of Andhra Pradesh and the Influence of Physical Activity Programme on Them**".

Place: Kurnool
Date:

Seal :

Head Master 27/9/16

Gazetted Headmaster Gr-II
GOVT. HIGH SCHOOL,
ATMAKUR - 518422
Kurnool Dt., A.P.

Appendix - A (Continued)

Government of Andhra Pradesh
Department of School Education

CERTIFICATE

This is to certify that Mr. P. LAKSHMAN NAIK, Ph.D., Research Scholar of Department of Physical Education and Sports, Pondicherry University, Puducherry, has collected his data for pilot study (survey) on the title "**Survey of Physical Fitness among Tribal School Boys of Kurnool District of Andhra Pradesh and the Influence of Physical Activity Programme on Them**".

Place: Kurnool
Date:

Seal : Z. P. H. SCHOOL

[B. Adilakh]
Head Master
Head Mistress
Z.P.H. School, Allagadda,
Kurnool (Dt) 518 543.

Appendix - A (Continued)

Government of Andhra Pradesh
Department of School Education

CERTIFICATE

This is to certify that Mr. P. LAKSHMAN NAIK, Ph.D., Research Scholar of Department of Physical Education and Sports, Pondicherry University, Puducherry, has collected his data for pilot study (survey) on the title "**Survey of Physical Fitness among Tribal School Boys of Kurnool District of Andhra Pradesh and the Influence of Physical Activity Programme on Them**".

Place: Kurnool
Date:

Seal : Govt. High School Dt. ..... Kurnool (Dt.) Panyam 518112

[ ]
Head Master

HEADMASTER
Govt. High School
PANYAM, Kurnool (Dist)

APPENDIX-B

LIST OF TRIBAL SCHOOLS AT KURNOOL DISTRICT OF ANDHRA PRADESH

Sl. No	Name of Schools
1	A.P.T.W.R.SCHOOL (BOYS), SRISAILAM
2	A.P.T.W.R.SCHOOL OF EXCELLENCE, SRISAILAM
3	GOVT. S.T. ASHRAM HIGH SCHOOL, ALUR
4	GOVT. S.T.ASHRAM HIGH SCHOOL, RATANA
5	GOVERNMENT S.T. HIGH SCHOOL, BAIRLUTY
6	Govt. T.W.ASHRAM HIGH SCHOOL, MAHANANDI
7	GOVT. HIGH SCHOOL, ATMAKUR
8	Z.P.H.SCHOOL, ALLAGADDA
9	GOVT. HIGH SCHOOL, PANYAM

APPENDIX - C
PHYSICAL ACTIVITIES PROGRAMME (PAP) FOR 12 WEEKS

Sl. No.	Weeks	Activities
1	**I**	Warming up Exercises Calisthenics Exercises Dodge ball game Warm down Exercises
2		Warming up Exercises Dumb-bells exercises Human hurdle relay Warm down Exercises
3		Warming Up Exercises Indian Club Exercises Running Forward Relay Warm down Exercises
4		Warming up Exercises Hoop Exercises Hopping Relay Game Warm down Exercises
5		Warming up Exercises Yoga Exercises Ball Dribbling Relay Warm down Exercises
6	**II**	Warming up Exercises Flower stick Exercises Snatching the Kerchief Warm down Exercise
7		Warming up Exercises Dands and Bail tracks Find out the leader Warm down Exercises
8		Warming up Exercises Hoop Exercises Relay Games Warm down Exercises
9		Warming up Exercises Wands Exercises Don't touch my tail game Warm down Exercises
10		Warming up Exercises Lezium Exercises Shadow tag game Warm down Exercises
11	**III**	Warming up Exercises Yoga Exercises Ball Roll Relay Warm down Exercises
12		Warming up Exercises Gymnastics Floor Exercises Rama &Ravan minor game Warm down Exercise
13		Warming up Exercises Pole drill Exercises Find out the leader Warm down Exercises

14		Warming up Exercises Calisthenics Exercises Dodge ball game Warm down Exercises
15		Warming up Exercises Lezium Exercises Ball role Relay Warm down Exercises
16	**IV**	Warming up Exercises May pole Exercises Shadow tag Exercises Warm down Exercises
17		Warming up Exercises Pole drill Exercises Don't touch my tail game Warm down Exercises
18		Warming up Exercises Flower stick Exercises Snatching the Kerchief Warm down Exercises
19		Warming up Exercises Indian Club Exercises Ball Dribbling Relay Warm down Exercises
20		Warming up Exercises Pyramids Turnal Ball Relay Warm down Exercises
21	**V**	Warming up Exercises Combative Foot Ball Dribbling Relay Warm down Exercises
22		Warming up Exercises Malkhamb Frog Jump Relay Warm down Exercises
23		Warming up Exercises Hoop Exercises Relay Games Warm down Exercises
24		Warming up Exercises Pyramids Turnal Ball Relay Warm down Exercises
25		Warming up Exercises Pole drill Exercises Kangaroo Relay Warm down Exercises

26	**VI**	Warming up Exercises Calisthenics Exercises Dodge ball game Warm down Exercises
27		Warming up Exercises Dumb-bells exercises Human hurdle relay Warm down Exercises
28		Warming up Exercises Yoga Exercises Ball Dribbling Relay Warm down Exercises
29		Warming Up Exercises Indian Club Exercises Running Forward Relay Warm down Exercises
30		Warming up Exercises Hoop Exercises Hopping Relay Game Warm down Exercises
31	**VII**	Warming up Exercises Flower stick Exercises Snatching the Kerchief Warm down Exercises
32		Warming up Exercises Dands and Bail tracks Find out the leader Warm down Exercises
33		Warming up Exercises Dumb-bells exercises Human hurdle relay Warm down Exercises
34		Warming up Exercises Wands Exercises Don't touch my tail game Warm down Exercises
35		Warming up Exercises Lezium Exercises Shadow tag game Warm down Exercises
36	**VIII**	Warming up Exercises Yoga Exercises Ball Roll Relay Warm down Exercises
37		Warming up Exercises Gymnastics Floor Exercises Rama &Ravan minor game Warm down Exercises
38		Warming up Exercises Indian Club Exercises Find out the leader Warm down Exercise

39		Warming up Exercises Lezium Exercises Ball role Relay Warm down Exercises
40		Warming up Exercises Pole drill Exercises Ball role Relay Warm down Exercises
41	**IX**	Warming up Exercises May pole Exercises Shadow tag Exercises Warm down Exercises
42		Warming up Exercises Lezium Exercises Don't touch my tail game Warm down Exercises
43		Warming up Exercises Hoop Exercises Find out the leader Warm down Exercises
44		Warming up Exercises Pole drill Exercises Ball Dribbling Relay Warm down Exercises
45		Warming up Exercises Pyramids Turnal Ball Relay Warm down Exercises
46	**X**	Warming up Exercises Combative Foot Ball Dribbling Relay Warm down Exercise
47		Warming up Exercises Malkhamb Frog Jump Relay Warm down Exercises
48		Warming up Exercises Calisthenics Exercises Dodge ball game Warm down Exercises
49		Warming up Exercises Hoop Exercises Relay Games Warm down Exercises
50		Warming up Exercises Pole drill Exercises Kangaroo Relay Warm down Exercises
51		Warming up Exercises Calisthenics Exercises Dodge ball game Warm down Exercise
52		Warming up Exercises Dumb-bells exercises Human hurdle relay Warm down Exercises

53	**XI**	Warming up Exercises Dumb-bells exercises Ball Dribbling Relay Warm down Exercises
54		Warming Up Exercises Indian Club Exercises Running Forward Relay Warm down Exercises
55		Warming up Exercises Hoop Exercises Hopping Relay Game Warm down Exercises
56	**XII**	Warming up Exercises Flower stick Exercises Snatching the Kerchief Warm down Exercises
57		Warming up Exercises Dands and Bail tracks Find out the leader Warm down Exercises
58		Warming Up Exercises Indian Club Exercises Foot Ball Dribbling Relay Warm down Exercises
59		Warming up Exercises Wands Exercises Don't touch my tail game Warm down Exercises
60		Warming up Exercises Lezium Exercises Shadow tag game Warm down Exercises

APPENDIX-C (Continued)
PHYSICAL ACTIVITIES PROGRAMME

Warm up Exercises/Introductory Activities:

This is a period of initiation and the activities must be sufficiently attractiveand stimulating. The change over from the class room atmosphere to the joyousfreedom of the play field needs physical and mental adjustment, so that theparticipant is "set" to take part in what is to follow. The activities are generallywell known big muscle movements, carried out vigorously and continuously for ashort duration of about three to five minutes. There is an atmosphere ofinformality during these activities. An exhilarating introduction would act as aleaven for good. Only about an eighth of the time at the teacher's disposal may bedevoted for this part.

SuggestedActivities for Introductory part:

1. Natural activities: Running, walking, sitting, hopping, skipping, pulling, pushing, galloping, vaulting, throwing, etc.
2. Modified activities (combined activities): Run and jump over obstacles, fancy movements of limbs, combination of running, skipping, hopping in circles, formations of groups on the move.
3. Informal group competition: Relays, spokes relay, run and touch objects and return
4. Rhythmic exercises: Folk dance movements in circles and lines, gymnastic dance.
5. Follow the leader pattern: Following the activities of the teacher

Formal Activities:

The activities include Callisthenic and exercises for the development andmaintenance of total body fitness and health. They are not merely a corrective tothe unfavourable influence of school life on posture, but act as positiveeducational factors, to train the power of voluntary attention a well developedmuscle sense, and accurate response to motor stimuli. Consequently they help tokeep the body supple, and under control. The activities are done to commands andthere is an insistence on promptness, precision and unison in the execution of eachactivity. The exercise may be one or two,

or a series: largely big muscle activitiesdone continuously and vigorously, so that the whole organism may be affected.The period does not exceed five to ten minutes.

Special Activities:

Every activity must include something new, something in which the childcan evince interest. The following activities may be grouped under this head.

1. Light apparatus – Dumb bells, wands,lazium and hoop.

2. Indigenous exercises – Asanas, Dands, Baitaks, Suryanamaskhars, etc.

3. Stunts and Tumbling.

4. Games in Football, Kabaddi and Kho – kho

5. Rhythmic activities and Dances

Recreation Activities:

The most enjoyable part of activities is undoubtedly the recreation partwhen the students engage themselves in delightful recreation under staffsupervision. It may be a game, a competition, a regular or modified athletic meet.

There is an atmosphere of joyous fun and fair play and the game situations providea rich experience that goes to make a "sportsman". Half of the period of a lesson,if not two-thirds may be devoted to the sections of special and recreation activities.

Assembly and Dismissal:

Every period must have an orderly and impressive closing. Whatever maybe the type of activity the students are engaged in, at the end of a period, thewhole class must assemble together and then disperse.

APPENDIX-C (Continued)

VARIOUS TYPES OF RECREATIONAL ACTIVITIES

Simple Running Relay (Simple File Relay or Forward Running Relay)

Arrange the teams in parallel files facing the starting line. At signal, thefirst player of each team runs forward to the turning line, returns and touches offthe second player. The second player runs and touches off the third player.Continue until all have run. The team finishing the first wins.Jumping on Both Feet RelayArrange the teams in parallel files facing the starting line. At signal, thefirst player of each team jumps on both feet to the turning line and returns byjumping on both feet to the starting line and touches off the second player, whocontinues the game. The team finishing first wins.

Jump the "Ditch" Relay

In the midway between the starting line and the turning line a "Ditch"marked on the floor by drawing two parallel lines about 1.50 meters apart. Eachrunner has to jump that ditch while he is running forward to the turning line aswell as on his way back to the starting line.

Frog – Jumping Relay

Each runner in turn takes a position on hands and feet, hands close together,feet slightly spread with knees outside of the arms. He advances by a series of frog– like jumps, leaping forward, landing on hands and then bringing the feet up tothe original position. In this position, he travels to the turning line and returns tothe starting line. He touches off the second player who then repeats. The teamfinishing first wins.

Kangaroo – Jumping Relay

Arrange the players of each team in file, one behind the other, behind thestarting line. The first player places a basketball between his thighs and jumps tothe turning line and back to the starting line. He then hands over the ball to thesecond player, who then repeats. If the ball is dropped, it must be replaced beforefurther progress is made. The team finishing first wins.

Zig – Zag Relay

Directly in front of each team between the starting line and the turning line,set up a row of five Indian Clubs one meter apart. At signal, the first player runsforward zig – zags between the clubs, crosses the turning line, zig – zags backbetween the clubs and then runs to the starting line touching off the second playerwho repeats. The team finishing first wins.

Tunnel Relay

Place a player, preferably a taller one, in front of each team, at a point half– way down to the turning line. Have these players spread their legs widely. At thesignal, the first player runs, dives between the legs of the stationed player, runs tothe turning line, returns to the starting line and touches off the second player whorepeats. The team finishing first wins.

Human – Obstacle Relay

Station four men in line with each file between the starting and turning lines, five meters apart. The first stands erect, the second at stride with feet wellspread, the third in leap frog position and the fourth erect. At the signal the firstplayer of each team runs around the first man, dives through the legs of thesecond, vaults over the third, runs completely around the fourth and returns directto the starting line, touching off the second player who repeats. The team finishingfirst wins.

All – up and All – down Relay

Opposite each team on the turning line, mark a circle one meter in diameter and in each circle keeps four Indian Clubs standing. At the signal the first playerruns forward knocks the clubs down, returns and touches off the second player,who runs forward and sets the clubs up again. The third player knocks them downand so on. Thus the relay continues knocking and setting the clubs up until allhave run. The team finishing first wins.

Jump – the - stick Relay

Teams are arranged in files behind the starting line. Give the first player ofeach team a wand. At signal the first player runs with the wand to the turning line,returns,

gives one end of the stick to the second player who holds on to the otherend. They both bend down holding the stick between them about 20 cm from thefloor and parallel to it, and run back to the end of the line of players, one on eachside of the line. Each player jumps over the stick as it reaches him. When the stick has reached the end the first player remains there; the second runs with the stick tothe turning line, returns, gives one end of the stick to the third player and repeats. Continue until all have run. The team finishing first wins.

Pony – Express Relay

Teams are arranged in files behind the starting line. Each team has to selectits lightest and smallest player to act as "rider" and all others act as "ponies". Atthe signal the rider mounts the back of No.1 pony who carries him to the turning line while the rider runs back and mounts pony No.2 who is ready in the starting line. The second pony then repeats. Continue until all have run. The team finishing first wins.

Low Bridge Relay

Teams are arranged in file behind the starting line. Two players of eachteam hold up a wand at the turning line, at a height of one meter above the ground forming a bridge. On signal, the first player runs with his hands on hips and passesunder the wand by leaning backward and returns to the starting line and touch offthe other who continues the relay. The team that finishes first wins.Back – to – Back RelayThe first two players stand back to back and link elbows. At the signal thefront player leans forward lifts the back player off the floor and thus carries him to the turning line. At this line he lowers the back player to the floor and that playerimmediately leans forward lifts the first player and carries him back to the startingline. They touch off the next pair who repeats. The team that finishes first wins.

Overhead Passing Relay

Divided the players into teams and arrange them in files behind the startingline, facing front. A turning line is marked five meters in front of the starting line.Given the front player of each team a ball. At a signal the ball is passed back overthe heads of the players; the rear player on getting the ball runs forward to theturning line then returns and takes his place at the front of the line and passes theball back again. This continues

until the player who was in front at first comes tothe same place again and holds the ball up. The team doing this first wins.

Over and Under Passing Relay

Arrange teams as in the overhead passing relay and space the playersalarm's length apart. At the signal the first player of each team passes the ball backover his head to the second player who passes it back between his leg to the third,the third player over his head to the fourth and so on. When the last player gets theball, he runs to the turning line, returns and takes his place at the head of the lineand starts the ball passing back again. The team that first returns the originalplayer to the head of the line wins the game.

Turning Ball Relay

Divide the players into teams and arrange them in files with feet apartbehind the starting line, facing front. Give the front player of each team a ball. Ata signal the ball is rolled back between the legs of the players; the rear player ongetting the ball runs forward to the turning line, then returns and takes his place atthe front of the line and rolls the ball back again. This continues until the playerwho was in front at first comes to the same place again and holds the ball up. Theteam doing this first wins.

Rope Skipping Relay

Players are divided into teams of equal number and arrange them in filesbehind the starting line. At the signal, the first player in each team goes to theturning point which 10 meters in front is skipping all the way up and down andhands the rope (about 2.44 meters long) to the next who continues in the sameway. The last player finishes at the starting line. The team that finishes first will bethe winner.

Skin the Snake

Divide the players into two teams and place them in parallel files. Have theplayers stand at stride with feet well apart. Each player reaches between his legswith his right hand and with it grasps the left hand of the player behind him. At thesignal the line moves backward, the rear player lying on his back, still holding thehand of the player in front. Each player lies down as his turn comes. Players lyingon the floor should keep their legs close to the body of the player in front. Whenthe entire file is on

the floor, the rear man rises, moves forward, and the others inturn do likewise. The team wins when the team first has all of its players on theirfeet with all hands still clasped.

Potato Race

Teams stand in files behind the starting line. Between the starting line andthe finish line, circles, equal in number are drawn in front of each team. In eachcircle one Potato is placed. On signal the first player from each team runs forward,picks up the potato from the circle in front of his team, places it to the finishingline, one by one and runs back to touch the second player of his team. The secondplayer runs, picks up the potato, places it in each circle one by one as originallyplaced and touches the third. The relay continues in the same manner. The teamwhich finishes first wins.

Hopping Tag (Nandi Tag)

Players are scattered over a marked area. One of the players is chosen as"It". The "It" starts the game by hopping on one foot and chasing the players. Ifthe "It" succeeds in tagging a player, the tagged player becomes the "It" and thegame continues.

Ostrich Tag

The players are scattered in the marked area and "It" attempts to tag them.A player is safe when he stands on one foot with the arm under the knee of the legraised in the air and grasping the nose. When "It" is not near, they run. Eachplayer may use this method of escape three times and then they may escape onlyby running. Anyone who is tagged becomes "It" and the game continues.

Last couple Out

Select one player as "It". The other players stand in couples in two filesbehind the "It" facing the same direction that he faces. The distance from "It" tothe first couple should be three meters. When the "It" calls "last couple out", thelast pair runs towards the front one on each side of the file and tries to join handswith one another in front of the "It" before the "It" tags either of them. "It" cannotlook back or begin chasing until they are in line with him. If the "It tags one of theplayers he goes with the untagged player to the head of the file and the persontagged is "It". If the "It" misses tagging any one of the players the couple goes tothe head of the line and he continues to be the "It".

Crows and Cranes

Divide the players into two teams of equal number and name them “Crows”and “Cranes”. Draw two parallel lines one meter apart across the middle of theplaying space, 10 to 12 meters away at either side, draw goal lines. Players line up,toeing the lines, the cranes on one side and the crows on the other side of theparallel lines. The leader or teacher stands in the middle and calls out in prolongedtone CR-R-R-R-R and ends as ‘anes’ (cranes) or ‘rows’ (crows). When cranes orcrows whichever is called dash back to goal lines and are chased by the othergroup. Those who are tagged, join the other side. Repeat the game four or fivetimes and the team that has the largest number at the end wins the game.

Good Morning

Arrange all the players except one in a circle close together and facing it.The extra player “It” is outside the circle. “It” runs around the circle and taps someplayer on the back and continue the run. One who is tapped leaves the circle andruns in the opposite direction. They meet on the opposite side of the circle fromthe gap, they stop, shake hands, saying “Good morning”, three times and thencontinue in their original directions to the gap. The player who first reaches thegap steps into it and wins. The other player becomes “It” and continues the game.

Come with Me

Arrange all players except one in a circle, facing in. Each player marks hisspot on the floor. The players sit behind their marks. The odd player “It” has astick and walks around inside the circle. He taps his stick in front of a player andsays “come with me”, whereupon the player falls in behind “It” and places hishands on “It’s” shoulders. This continues until “It” has three or four followers. Hethen says “Go home” and all dash for a vacant place. The player failing to secure aplace is “It” for the next game.

Get Your Partner

Players from two concentric circles. Players standing in the outer circlestand behind those of the inner circle and thus form pairs. Then the inner circlepairs turn to right and the outer circle pairs turn to left. At the signal, they startrunning forward, keeping the circle formation. When partners are still away fromeach other, the teacher

or leader shouts “Get Your Partners” instantly all race to sitwith their partners. The last pairs to sit get a bad point. Three bad points’ retiresthe pair from the game.

Merry-Go-Round

Arrange all players except one in a double circle, the inside circle facing tothe right and the outside circle to the left. The odd player stands in the centre. Onsignal or on music the circles run in the directions as indicated and on the nextsignal or when music stops, all stop running and with right hand grasp the righthand of a partner; the odd player tries to get a partner. The one left out goes in thecentre the next time.

Fire in the Mountain, Run, Run, Run (Fire Warden)

Arrange all the players except one in a double circle, facing in. The inside players are trees and they raise both hands up in front. The outside players stand directly behind the trees. The odd player is the “Fire Warden” and takes his place in the centre. The fire warden says. “Fire in the Mountain, Run, Run, Run” and claps his hands. The players in the outside circle begin running to the left. Suddenly the Fire Warden stops clapping and shout “Go Home”, and dashes in front of a tree and the runners do likewise. The runner who fails to find a tree becomes Fire Warden and the trees are now runners.

Snatch the Hand Kerchief

Two equal teams line up facing each other. Midway between the two teams,place a hand Kerchief. Number the players of each team from opposite ends of theline. The leader calls a number and the two players holding that number go afterthe hand kerchief. The player that is not successful in getting the hand kerchief chases his opponent back, trying to tag him. One point is scored for the playerreturning safely to his line with the hand kerchief. The team scoring ten points firstwins.

Change the Club

Mark two lines on the floor parallel to each other and about ten metersapart; mark three circles midway between them, fifty centimeters in diameter, onein the centre and the other two at the ends. The centre circle is common to bothteams but the end circles belong one to each team. In the centre circle place twoIndian clubs.

Divide the group into two teams and place the players of each team behindone of the lines and facing it. Number the players of each team from opposite endsof the line so that the players holding the same number stand diagonally opposite to each other.

The teacher calls a number, for instance, “Five”. Each number five dashesto the centre circle, picks up a club, places it in his team’s end circle, and returnsto his position. The player coming to attention first scores one point for his team.The team scoring seven point’s first wins. When the next number is called, therunners transfer the clubs from the end circles back to the centre. The numbersshould be called at random so that all will be kept alert. Announce the scorefrequently.

Dodge ball

The players are divided into two equal groups. One group stands around acircle marked on the floor and the other group scatters inside it. The playersstanding outside of the circle hit those inside with a ball (football or volleyball),the inside players dodge to evade. They may jump, stoop or resort to any means ofdodging except leaving the circle. A direct hit puts the players out. The last playerremaining in the circle is declared the winner. The two groups then change places.The inside players becoming circle players and the circle players going into thecircle.

Fish Net

Mark off a goal at each end of the playing area and establish side lines.Divide the players into two teams, one behind each goal. The players at one goaljoin hands to form the fish net: those behind the other goal are the fish. At thestarting signal all the players run for the opposite goal and the fish net tries tocatch as many fish as possible by encircling them. The fish cannot break throughthe net or go under the hands, but can escape only through the opening at theends. When the net is closed all who have been captured join that side. Theplayers go back to their goals and the other side forms the net for the next game.The game continues with each side alternating as fish and net until all the players on one side have been captured.

APPENDIX – D

PHYSICAL FITNESS TEST SCORE CARD

Name ……. Class ……

Age……..Date of Birth ……..….

Height …….. Weight ……..

Address (Institutional)

……

Sl. No.	Test Item	Record				Remarks
		I	II	III		
1	Pull-Ups (Number)					
2	Bent-Knee Sit-Up s OneMinute (Number)					
3	Shuttle Run (seconds &Tenths)					
4	Standing Broad Jump (Centimetre)					
5	50 Yard Dash (Seconds &Tenths)					
6	600 Yard Run/Walk (Minutes &Seconds)					

Place:

Date:Signature

Test Administrator

APPENDIX -E

CONTROL GROUP

Serial No	PULL-UPS		BENT KNEE IT-UPS		SHUTTLE RUN		STANDING BROAD JUMP	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST
1	7	8	17	20	12.00	10.96	1.75	1.72
2	5	5	18	19	11.54	10.61	1.93	1.96
3	4	5	28	28	11.75	10.50	1.81	1.83
4	4	4	18	21	11.52	10.24	1.65	1.66
5	2	3	22	24	11.94	10.47	1.82	1.80
6	7	6	23	26	12.37	11.62	1.73	1.71
7	6	6	22	21	11.70	10.71	1.74	1.72
8	5	7	26	28	11.78	10.43	1.79	1.80
9	3	5	21	24	13.16	12.20	1.20	1.22
10	4	6	24	25	11.12	8.69	1.70	1.86
11	5	6	23	25	11.52	9.19	1.53	1.77
12	9	10	28	29	11.72	9.75	1.60	1.65
13	6	8	24	26	12.06	10.93	1.46	1.50
14	4	6	19	22	12.93	11.00	1.20	1.35
15	5	5	20	21	12.16	10.88	1.32	1.54
16	3	4	14	17	11.37	8.31	1.68	1.71
17	6	7	27	28	12.03	9.56	1.63	1.70
18	5	4	12	13	10.85	9.76	1.85	1.90
19	8	9	26	27	12.44	9.25	0.90	1.57
20	4	6	21	23	11.60	9.72	1.66	1.72
21	11	13	8	10	11.10	8.22	1.70	2.10
22	7	9	15	16	12.00	10.96	1.75	1.72
23	10	9	30	30	11.54	10.61	1.93	1.96
24	7	8	24	26	11.75	10.50	1.81	1.83
25	9	10	28	29	11.52	10.24	1.65	1.66
26	7	8	20	21	11.94	10.47	1.82	1.80
27	6	8	18	20	12.37	11.62	1.73	1.71
28	8	9	23	25	11.70	10.71	1.74	1.72
29	5	7	18	21	11.78	10.43	1.79	1.80
30	7	9	23	25	13.16	12.20	1.20	1.22

APPENDIX –E (Continued)

EXPERIMENTALGROUP

Serial No	PULL-UPS		BENT KNEE IT-UPS		SHUTTLE RUN		STANDING BROAD JUMP	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST
1	7	9	28	30	11.12	8.69	1.70	1.86
2	6	8	17	20	11.52	9.19	1.53	1.77
3	4	7	30	32	11.72	9.75	1.60	1.65
4	7	9	28	30	12.06	10.93	1.46	1.50
5	4	6	12	17	12.93	11.00	1.20	1.35
6	2	5	12	19	12.16	10.88	1.32	1.54
7	3	5	21	25	11.37	8.31	1.68	1.71
8	6	8	23	27	12.03	9.56	1.63	1.70
9	8	11	25	32	10.85	9.76	1.85	1.90
10	3	6	24	29	12.44	9.25	0.90	1.57
11	7	9	30	33	11.60	9.72	1.66	1.72
12	4	8	18	22	11.10	8.22	1.70	2.10
13	10	12	19	23	11.81	8.53	1.92	2.00
14	4	6	28	30	11.44	10.03	1.22	1.75
15	7	10	24	26	11.40	8.25	1.76	1.80
16	5	9	19	25	13.23	8.93	1.46	1.69
17	5	8	16	19	12.15	8.97	1.59	1.77
18	6	8	15	18	11.10	10.47	1.54	1.67
19	3	6	16	20	12.10	9.88	1.46	1.56
20	4	8	21	24	11.87	8.90	1.50	1.72
21	6	9	18	22	12.10	11.19	1.61	1.80
22	7	11	27	30	10.69	8.91	2.00	2.00
23	8	9	19	25	10.94	8.25	1.95	2.02
24	3	6	20	24	11.19	8.50	1.92	2.10
25	7	12	29	33	10.69	8.81	1.77	1.86
26	5	7	17	23	11.78	8.28	1.64	2.06
27	10	12	25	28	11.50	8.25	1.90	2.02
28	5	8	20	26	11.34	9.25	1.52	1.70
29	12	14	18	25	11.10	9.64	1.88	2.02
30	6	9	22	26	11.50	8.55	1.80	1.92

APPENDIX –E (Continued)

50 Yard Dash

Sl. No	Control Group		Experimental Group	
1	8.03	8.25	7.84	12.25
2	8.64	8.83	8.03	12.68
3	8.76	9.18	8.19	11.87
4	8.53	8.55	8.87	11.23
5	8.86	8.90	9.69	11.25
6	8.63	9.29	8.56	12.56
7	7.89	8.85	7.35	12.69
8	8.38	8.40	9.63	11.87
9	8.39	8.42	8.15	11.98
10	7.89	8.50	8.75	11.26
11	8.40	8.42	8.66	10.50
12	8.23	8.66	8.44	11.56
13	8.28	8.89	8.12	11.84
14	8.36	9.23	8.47	12.22
15	8.32	8.79	8.17	12.50
16	8.71	9.65	8.58	12.28
17	7.88	9.79	9.37	12.63
18	9.02	9.95	8.44	11.45
19	8.61	8.78	9.19	12.03
20	8.81	8.86	8.54	12.81
21	8.74	9.10	7.16	12.00
22	8.46	8.50	7.13	11.38
23	7.97	8.10	7.79	12.44
24	8.92	9.80	8.03	11.47
25	8.84	10.28	7.57	11.22
26	8.68	10.65	7.53	11.19
27	8.06	9.94	7.65	11.50
28	8.48	10.26	7.59	11.06
29	8.57	9.40	7.44	12.03
30	7.90	9.00	7.85	11.56

APPENDIX –E (Continued)

600 Yard Run/Walk

Sl. No	Control Group		Experimental Group	
1	2.55	2.48	2.41	2.17
2	3.41	3.35	2.40	2.18
3	2.24	2.18	2.44	2.30
4	3.14	3.30	2.54	2.31
5	3.13	3.08	3.32	2.53
6	2.40	2.32	2.52	2.34
7	2.39	2.44	2.44	2.20
8	2.30	2.18	2.46	2.18
9	2.43	2.32	2.42	2.11
10	2.39	2.18	2.55	2.10
11	2.23	2.20	2.48	2.22
12	2.26	2.17	2.49	2.02
13	2.40	2.30	2.38	2.00
14	2.54	2.39	2.46	2.08
15	2.44	2.47	2.36	2.19
16	2.36	2.25	3.01	2.10
17	2.58	2.36	3.21	2.40
18	2.50	2.28	3.04	2.51
19	2.52	2.15	3.14	2.02
20	2.43	2.20	3.06	2.25
21	2.59	3.10	2.34	2.17
22	2.06	2.31	1.56	1.47
23	2.56	2.24	2.10	1.40
24	2.40	2.29	2.15	1.46
25	3.18	2.56	2.12	1.48
26	2.32	2.23	2.05	1.52
27	2.45	2.32	2.01	2.00
28	3.20	2.50	2.12	2.10
29	2.01	2.20	2.30	2.04
30	2.20	2.16	2.20	2.01

APPENDIX – F

ANDHRA PRADESH MAP

APPENDIX - G

PROFILE OF ANDHRA PRADESH STATE

Andhra Pradesh is one of the 29 states of India, situated on the country's southeastern coast. The state is the eighth largest state in India covering an area of 160,205 km².According to 2011 census, the state is tenth largest by population with 49,386,799 inhabitants. The state has the second longest coastline of 972 km (604 mi) among all the states of India, only second to Gujarat. There are two regions in the state namely Coastal Andhra and Rayalaseema and hence, the two regions are more often referred as Seemandhra by the news media. There are 13 districts with 9 in Coastal Andhra and 4 in Rayalaseema. Visakhapatnam is the largest city and a commercial hub of the state with a GDP of $26 billion followed by Vijayawada with a GDP of $3 billion. Other commercial hubs of the state include; Tirupati, Kurnool, Guntur, Kakinada and Rajahmundry. Hyderabad is the joint capital of both Andhra Pradesh and Telangana states for a period of 10 years.

The state is endowed with a variety of physio-graphic features ranging from Eastern Ghats, Nallamala Forest, Coastal plains to deltas of two major rivers of Krishna and Godavari. The state is the largest producer of rice in India, and hence, it is nicknamed as The Rice Bowl of India. Telugu, which is one of the classical languages in India is the official language of the state.

Games and Sports of Andhra Pradesh

Traditional adult games of Andhra Pradesh include GujjanaGoollu, Toy Wedding, RamuduSita, KothiKommachi, Achenagandlu, Chendata, ChukChukPulla, DaguduMootalu, GuduGuduGunjam, Daadi, Kappa Gantulu, BommaBorusa, BachaalaAata, Kiriki, London Aata, TokkuduBilla, KarraBilla (GilliDanda), Yedupenkulata (Lagori), Vamanaguntalu (Pallanguzhi), Naela Banda (OonchNeech), PuliJoodam, AshtaChamma - Board Game, Vaikuntapali (Snakes and ladders), NaluguStambalata, NaluguRalluAata – Game of 4 stones, and Goleelu.

Some more games include Galli Cricket, Donga Police, Dilidhandu,Dagudumuthallu, kanlakiganthallu, kothikommachi, astachemma, thokudubilla, raja rani, marble games (Goti), Posham posh, Spinning top (Bongaram), virivirigumadipandu, kabbadi, khokho, kappa gantulu, bommaborusa, bommapellilu,

ammananaatta, lingosha (Chendatta), gudugudugunjam, yedupenkallu (Lagori), pulli cut, Vaikuntapali (Snakes and Ladders), Nalugustambalata, bandana bhomma, cycle tyre racing, Carrom, Chess, and Shuttlecock.

Kabbaddi: Kabaddi (sometimes transliterated Kabbadi or Kabadi; is a South Asian team sport. The name is derived from the Tamil word (*kai-pii, hand-catch*), which is equivalent to saying "holding hands". Two teams occupy opposite halves of a small field and take turns sending a "raider" into the other half, in order to win points by tackling members of the opposing team; then the raider tries to return to their own half, holding their breath and chanting the word "Kabaddi" during the whole raid. The raider must not cross the lobby unless he touches any of their opponents. If he does so then he will be declared as "out". There is also a bonus line which ensures extra points for the raider if he manages to touch the lobby and return to their side of the field successfully.

KhoKho: Khokho is played with two 12-player teams; one team (9 players) sits on ground between two poles and the other team sends three team members. The sitting team has to catch these players before time runs out.

Profile of Kurnool

Kurnool District is one of the 13 districts in the state of Andhra Pradesh, India. The district is located in the west-central part of the state and is bounded by Mahabubnagar district of Telangana in the north, Raichur district of Karnataka in the northwest, Bellary district of Karnataka in the west, Ananthapur district in the south, YSRKadapa district in the South East and Prakasham district in the east. The city of Kurnool is the headquarters of the district. It has a population of 4,053,463 of which 28.35% were urban as of 2011. The district is the 10th largest district in the country and the 2nd largest district in the state,[2] accounting for 17,658 square kilometres (6,818 sq mi).

APPENDIX – G (Continued)

Geography

Kurnool district occupies an area of approximately 17,658 square kilometers (6,818 sq mi),[8] comparatively equivalent to New Caledonia.[9] Kurnool is surrounded by districts of Mahbubnagar district of Telangana to the north, Anantapur district, Kadapa district to south, Prakasam district to east and Bellary of Karnataka to the west. The district encompasses the SrisailamDamand Nallamala Hills.

Demographics

According to the 2011 census Kurnool district has a population of 4,046,601,[10] roughly equal to the nation of Liberia[11] or the US state of Oregon.[12] This gives it a ranking of 54th in India (out of a total of 640).[10] The district has a population density of 229 inhabitants per square kilometre (590/sq mi) .[10] Its population growth rate over the decade 2001-2011 was 14.65%.[10]Kurnool has a sex ratio of 984 females for every 1000 males,[10] and a literacy rate of 61.13%.

House Hold Indicator

In 2007–2008 the International Institute for Population Sciences interviewed 1247 households in 38 villages across the district.[14] They found that 94% had access to electricity, 89.7% had drinking water, 34.6% toilet facilities, and 51.6% lived in a pucca (permanent) home.[14] 30.6% of girls wed before the legal age of 18[15] and 85.1% of interviewees carried a BPLcard.

Divisions

Kurnool District has 3 Revenue Division Viz., Kurnool, Nandyal, Adoni divisions. The district has 54 mandals and 53 PanchayatSamitis (Blocks) under these revenue divisions. It also has a Municipal Corporation of Kurnool and 4 municipalities namely Nandyal, Adoni, Yemmiganur, and Dhone. There are 899 gram panchayats that include 7 noticied and 862 non-notocied, alongside 920 revenue villages and 615 hamlets.

Economy

The Gross District Domestic Product (GDDP) of the district is 34,359 crore (US$5.1 billion) and it contributes 6.5% to the Gross State Domestic Product (GSDP). For the FY 2013-14, the per capita income at current prices was ₹68,197 (US$1,000). The primary, secondary and tertiary sectors of the district contribute 12,035 crore (US$1.8 billion), 6,055 crore(US$900 million) and 16,269 crore (US$2.4 billion) respectively

Transport

The total of core road network of the district is 1,162.20 km (722.16 mi). It includes, 504.48 km (313.47 mi) of existing and a proposed length of 657.720 km (408.688 mi).

Education

The primary and secondary school education is imparted by government, aided and private schools, under the *School Education Department* of the state.[24][25] As per the school information report for the academic year 2015-16, there are a total of 4,179 schools. They include, 78 government, 2,398 mandal and zillaparishads, 1 residential, 1,355 private, 33 model, 53 Kasturba Gandhi BalikaVidyalaya (KGBV), 140 municipal and 121 other types of schools.[26] The total number of students enrolled in primary, upper primary and high schools of the district are 631,740