A COMPARATIVE STUDY BETWEEN TRIBAL AND NON-TRIBAL ADOLESCENTS IN RESPECT TO MOTOR FITNESS HEALTH STATUS ANTHROPOMETRIC AND PSYCHOSOCIAL PARAMETERS

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INTRODUCTION

Indian society is a traditional one which is highly stratified and suffers from wide socio- economic disparities and cultural diversities. According to the report of the Education Commission (1964-1966) “The Indian society is hierarchical, stratified and deficient in vertical mobility.” This society of ours has many social divisions, which have been persisting through the centuries. These divisions consist of poor and rich people on the one hand, touchable and non-touchable on the other. Nevertheless, our society is also divided into tribals and non- tribals. The tribals in India have suffered from environmental deficiencies for ages. They have confined themselves to their own bounds, cutting themselves of from civilized societies. The tribal population in India numerically constitutes a small segment of the total population of the country but is a significant part of the population. Most of the Scheduled tribe people lives in rural areas and their population comprise 10.4 % of the total rural population of the country (Cencus of India, 2001). They usually staying in rural areas, in a small locality, absolutely illiterate poor, hardly clad in clothes, usually dark and frail, fully living within their own community.

In India various tribal communities are in different stages of development, but they are still backward in comparison to those who are so called civilized people. Therefore, it is possible that there may be a greater difference in physical fitness, body composition, anthropometric measurement and psychological etc. between tribal and non-tribals (Rowney, 1974). These tribals are aborigines of our country. They have been number of studied from number of angles. The active life with lot of physical activity to earn their daily bread and butter is contributory to their physical development. The genetically potentiality in performing vigorous physical activity can be useful to excel in certain sports and games.

It is a matter of common knowledge that tribal lands are brought up in the lap of open natural space and outdoor setting of vigorous life. Most of the tribals people are laborious. The main occupations of tribals are handicraft, wood work and selling fruits which are found in forest. Some of them are farmers also (Majumdar, 1961). Because of this conducive environment, their physical capabilities in running, jumping, throwing and such other natural activities are tremendously developed.

History reveals that there are a lot of differences between tribes and non-tribes in every aspect of their life such as customs, rituals, eating habits, culture and style of living which result in difference in physical potential of tribes and non-tribes (Negi, 1976; Ahluwalia, 1999).

During adolescent stage is vital for all community students (Tribal & Non-Tribal) because, adolescence is the developmental period of transitional stage of physical and mental development that occurs between childhoods to adulthood (age of majority). This transition involves biological, social and psychological changes. The World Health Organization identifies adolescence as the period in human growth and development that occurs after childhood and before adulthood, from ages 10 to19. The process of adolescence is a period of preparation for adulthood during which time several key developmental experiences occur. Besides physical and sexual maturation, these experiences include movement toward social and economic independence, and development of identity, the acquisition of skills needed to carry out adult relationships and roles, and the capacity for abstract reasoning. In this regard human life is considered to be the path of journey that starts with pre-natal stage and thereafter follows intermediate stages of early childhood, late childhood, pre-adolescence, adolescence, adulthood and finally ends with death. Each and every stage of growth and development has its unique characteristics. A detailed study of these characteristics has been the essential features for medical practitioners, psychologists, anthropologists and educators.

A number of studies have been conducted in the area of physical growth and development of children but specially the information regarding motor fitness, health status and psychosocial parameters of tribal and non-tribal adolescents (both boys and girls) has been attempted to a lesser degree. To compare the individuals with one another, to evaluate the performance of individuals and to understand the overall status in general is essential to study and analyze these parameters. These documents are not available for the adolescents of West Bengal in general. This need motivated the present researcher to take up this project entitled **" A Comparative Study Between Tribal and Non-Tribal Adolescents in Respect to Motor Fitness Health Status Anthropometric and Psychosocial Parameters".**

PURPOSE OF THE STUDY:

The purpose of the study is presented below according to the dimensions of the study.

1. **On Motor Fitness**
    i. To compare the motor fitness components of tribal and non-tribal boys adolescents.
    ii. To compare the motor fitness components of tribal and non-tribal girls adolescents.
2. **On Health Status**
    i. To compare the health status of tribal and non-tribal boys adolescents.
    ii. To compare the health status of tribal and non-tribal girls adolescents.
3. **On Anthropometric Measurements**
    i. To compare anthropometric variables of tribal and non-tribal boys adolescents.
    ii. To compare anthropometric variables of tribal and non-tribal girls adolescents.
4. **On Psychosocial parameters:**
    i. To compare psychosocial parameters of tribal and non-tribal boys adolescents.
    ii. To compare psychosocial parameters of tribal and non-tribal girls adolescents.

REVIEW OF RELATED LITERATURE

Devi (2000) compared the physical fitness and psychological traits of tribal and non-tribal high school students of high-altitude areas were carried out on 1200 students age range was 14 to 17 years, were taken randomly from six districts of Himachal Pradesh. They were tested Fleishman's Physical Fitness Test Battery to measure the physical fitness and for psychological traits, personality and adjustment inventory was used. They were found that the tribal students were superior in explosive strength, agility, dynamic flexibility and better in speed and endurance than the non-tribal

students. Altitude also affects both the group of tribal and non-tribal, the tribal of lower altitude were superior in their height and endurance to the tribal of higher altitude and the tribal of higher altitude were better in dynamic flexibility than the tribal of lower altitude. In the case of psychological traits, the non-tribal students were found more intelligent, emotionally stable, undemonstrative, conscientious, controlled and relaxed than the tribal students. Also, the non-tribal (boys and girls) were better adjusted in all the three areas of Adjustment; Emotional, Social and Educational than the tribal (boys and girls).

Akhtar (2012) studied the level of adjustment and anxiety among tribal and non-tribal students, and their age ranged was 12 to 18years. The level of adjustment testing tool developed by Bell (1934) and Sinha Anxiety Scale was administered to find out the level of anxiety. Result reveled that, there was significant difference between tribal and non-tribal students on adjustment and anxiety. Tribal students possessed more anxiety and adjustment related problems. The results also showed significant of difference on the dimension of home, health, social and emotional adjustment.

Sinha & Nag (2013) studied on anthropometric characteristics of 150 pre-pubertal tribal and non-tribal boys from Agartala Municipality area of West Tripura and observed that non-tribal boys had significantly higher height, weight, skinfold measurements and body fat % as compared to tribal boys. On the other hand, the tribal boy also showed significantly greater circumferences, bone widths, mesomorphic component as compared to non-tribal boys.

Dhanjal & Sharma 2014) conducted a stydy on status of academic anxiety, stress & body build among 337 kawar tribal boys and girls (135 & 202 respectively) of surguja district of chhattisgarh. The academic anxiety and state of stress were assessed by administering recommended psychological manuals and pignet index (pignet, 1901) was calculated to assess the body build. It was found that girls were found academically more anxious than boys. Both boys and girls showed non-satisfactory body build and girls exhibited high degree of stress.

Manna, Pan, & Chowdhury (2015) compared the body composition between tribal and non-tribal childreen of 10 to 16 years, which was selected from West Midnapore district of West Bengal. The author has been seen that tribal children have significantly better body composition than non-tribal children.

Hansda & Bandopadhyay (2019) compare the Agility, Power, Speed, Strength and Coordination between tribal and general school going subjects and their age ranged from 13 years to 16 years from the Bankura, Jhargram and Paschim Medinipur districts of West Bengal State. The result found that no significant difference was observed in Power and Coordination between tribal boys and general boys but the tribal boys were significantly better in speed, agility and strength than general boys.

Singh & Negi (2019) suggested that tribals health status is very miserable and need a systematic policy intervention at the states and the national level to revive and cure the health condition of the most vulnerable population.

METHODOLOGY

In this section the selection of subjects, criterion measure, tools and techniques, administration of the test, and statistical techniques used for analysis and interpretation of the data had been described here.

THE SUBJECTS

In West Bengal, 23 districts are divided under five administrative divisions, namely the Jalpaiguri division, Malda division, Burdwan division, Presidency division, and Medinipur division. The researcher has selected two districts in every division. The total number of 10 (ten) districts were selected from five administrative divisions. In the Jalpaiguri division, Alipurduar & Jalpaiguri districts were selected for the present study. In the Malda division, Dakshin Dinajpur & Murshidabad districts were selected for the study. In the Burdwan division, Birbhum & Hoogly districts were selected for the study. In the Presidency division, Nadia & North 24 Parganas districts were selected for the study. In the Medinipur division, Purulia and Purba-Medinipur districts were selected for the study.

From these two districts of each division, 320 students were selected. Out of the 160 students were selected from one district and another 160 students were selected from other district. Among 160 students there were 80 boys students and 80 girls students. Further 80 boys were equally divided into 40 tribal boys and another 40 were non-tribal boys students. Similarly, 80 girls were equally divided into 40 tribal girls and another 40 were non-tribal girls students. The same procedure for the selection of subjects was followed for other districts and other divisions. So, finally, 1600 subjects

were selected from 20 high schools of five different administrative divisions of West Bengal.

All together one thousand six hundred (1600) school students were selected from five different administrative divisions, out of which eight hundred were boys group students and they sub-divided into four hundred tribal boys (n = 400) and four hundred non-tribal boys (n= 400), selected from the school of different districts of West Bengal. Another eight hundred were girls group students. They were also divided into four hundred tribal girls (n = 400) and four hundred non-tribal girls (n= 400) and they were selected from the school of different districts of West Bengal. Their age ranged from 13 to 15 years. The distribution of the subjects has been presented in Fig. 1

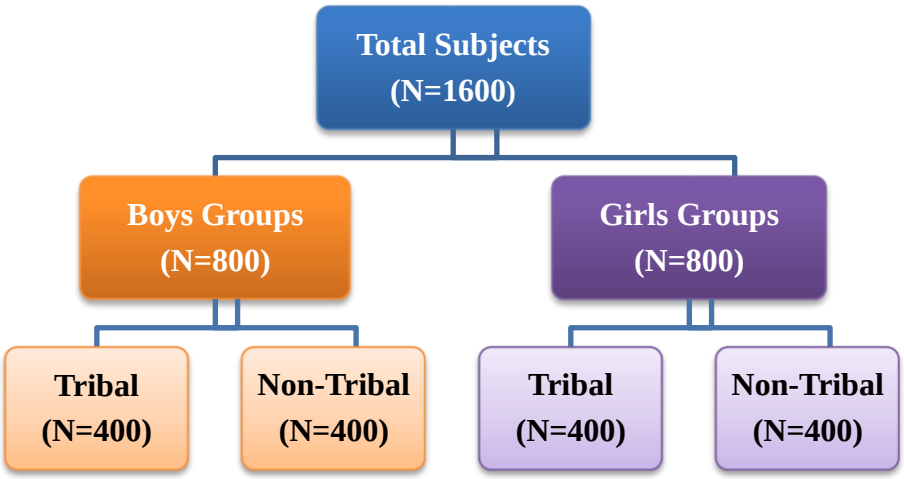

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Figure-1: Distribution of the Subjects of the Present Study

CRITERION MEASURES:

In the present study selected parameters for measurement was:

1. **Personal Data:**
   - I. Age (Years)
   - II. Height (cm)
   - III. Weight (kg)
   - IV. BMI (kg/m^2)
2. **Motor Fitness:**
   - I. Speed
   - II. Agility
   - III. Explosive Strength
   - IV. Balance

V. Co-ordination

VI. Reaction time

VII. Overall Motor Fitness

3. Health Status:

I. Optimum Health Scale (OHS)

4. Anthropometric Measurement

A. Skinfold Measurement

i. Triceps Skinfold

ii. Suprailiac Skinfold

iii. Abdominal Skinfold

iv. Thigh Skinfold

B. Body Composition

i. Body Fat %

ii. Fat Mass

iii. Lean Body Mass

5. Psychosocial Parameters:

A. Academic Anxiety

B. Stress

i. Pressure

ii. Physical Stress

iii. Anxiety

iv. Frustration

v. Overall Stress

C. Adjustment

i. Emotional Adjustment

ii. Social Adjustment

iii. Educational Adjustment

iv. Overall Adjustment

ADMINISTRATION OF THE TEST

Before administration the test the investigator explained the nature and purpose of the study to the subjects as well as to the testers. They were properly oriented through demonstration and they were motivated to give their best effort in performing all the items prescribe for them. Two consecutive days and about five hours per day were spent in a school for conducting all the tests. On the first day the researcher collected the

motor fitness component and anthropometric measurement. On the second day, the health status and psychosocial parameters (questionnaire) were conducted and collected the data.

In every school total number of the subject are equally divided in two groups, i.e., the first group was performing motor fitness components; the second group was performing the anthropocentric measurement. After completion all the tests in a station, the groups were interchanged the station for other group of tests. Next day or at second day all the subjects were completed the questionnaires for measuring psychosocial parameters.

RESULTS, CONCLUSION AND RECOMMENDATIONS

RESULTS OF THE STUDY

The results of the study have been described according to the four dimensions of the study.

1. MOTOR FITNESS

1) The tribal boys and girls had significantly higher speed performance than non-tribal boys and girls respectively.
2) The tribal boys and girls had significantly higher agility performance than non-tribal boys and girls respectively.
3) The tribal boys and girls had significantly more explosive strength performance than non-tribal boys and girls respectively.
4) The tribal boys and girls had significantly more balance ability than non-tribal boys and girls respectively.
5) There was no significant difference between tribal and non-tribal boys in coordination, but the tribal girls had significantly higher coordination performance than the non-tribal girls.
6) Tribal boys had significantly higher reaction-time performance than the non-tribal boys, but the tribal girls and non-tribal girls did not differ significantly.
7) The tribal boys and girls had significantly higher overall motor fitness performance than non-tribal boys and girls respectively.

2. HEALTH STATUS

1) The non-tribal boys and girls had significantly higher health status than the tribal boys and girls respectively.

3. ANTHROPOMETRIC MEASUREMENTS

1) The significant difference was observed in all skinfold measurement between tribal and non-tribal boys groups and girls groups respectively. The non-tribal boys & non-tribal girls had significantly higher in all skinfold measurements than the tribal boys & tribal girls respectively.
2) The significant difference was observed in body fat % and fat mass between tribal and non-tribal (both boys and girls). The non-tribal boys and girls were significantly higher in body fat % and fat mass than the tribal boys and girls respectively. On the other hand, lean body mass did not differ significantly between tribal and non-tribal (both boys and girls).

4. PSYCHOSOCIAL PARAMETERS

1) Tribal boys and tribal girls had significantly higher academic anxiety than non-tribal boys and non-tribal girls respectively.
2) The significant difference between two boys groups and two girls groups on the dimension of pressure, physical stress, anxiety, frustration, and overall stress has existed. Both the tribal boys & tribal girls faced a high level of stress-related problems than the non-tribal boys & non-tribal girls respectively. Both the non-tribal boys & non-tribal girls showed better on the dimension of pressure, physical stress, anxiety, frustration, and overall stress as compared to their counterparts. It also clear that the level of stress of the tribal students (both boys and girls) was found to a moderate level of stress and non-tribal (both boys and girls) was found to a low level of stress.
3) The significant difference between two boys groups and two girls groups on the dimension of emotional adjustment, social adjustment, educational adjustment, and overall adjustment has existed. Both the tribal (boys & girls) possessed more adjustment related problems than the non-tribal boys & non-tribal girls respectively. Non-tribal showed better on the dimension of emotional adjustment, social adjustment, educational adjustment, and overall adjustment as compared to their counterparts. It also clear that the level of adjustment of the tribal students (both boys and girls) was found to average adjustment and a non-tribal student (both boys and girls) was found above-average adjustment

CONCLUSIONS

On the basis of analysis of data and interpretation of results the following conclusions were drawn.

A. Motor Fitness

1. Tribal boys and tribal girls were found significantly better in speed and agility performance than non-tribal boys and non-tribal girls respectively.
2. Tribal boys and tribal girls had significantly better in explosive strength and balance than non-tribal boys and non-tribal girls respectively.
3. Tribal girls had significantly better in co-ordination than non-tribal girls. However, difference between two boys groups was not significant.
4. Tribal boys had significantly better in reaction-time than non-tribal boys. However, difference between two girls groups was not significant.
5. Tribal boys and tribal girls had significantly better in overall motor fitness than non-tribal boys and non-tribal girls respectively.

B. Health Status

1. Non-tribal boys and non-tribal girls had significantly better in health status (OHS) than tribal boys and tribal girls respectively.

C. Anthropometric

1. Non-tribal boys and non-tribal girls had significantly higher in triceps skinfold, suprailiac skinfold, abdominal skinfold, and thigh skinfold measurements than tribal boys and tribal girls respectively.
2. Non-tribal boys and non-tribal girls had higher body fat% and fat mass than tribal boys and tribal girls respectively.
3. Lean body mass was not significantly difference between two boys groups and two girls groups.

D. Psychosocial Parameters

I. Academic Anxiety

1. Tribal boys and tribal girls had significantly higher in academic anxiety than non-tribal boys and non-tribal girls respectively.

II. Stress

1. Tribal boys and tribal girls had significantly higher score in pressure than non-tribal boys and non-tribal girls respectively.

2. Tribal boys had higher score in physical stress than non-tribal boys. However, difference between two girls' groups was not significant.
3. Tribal boys and tribal girls were significantly higher in anxiety score than non-tribal boys and non-tribal girls respectively.
4. Tribal boys and tribal girls had significantly more frustration than non-tribal boys and non-tribal girls respectively.
5. Tribal boys and tribal girls had faced more overall stress related problems than non-tribal boys and non-tribal girls respectively.

III. Adjustment

1. Non-tribal boys and non-tribal girls had significantly better in emotional adjustment than tribal boys and tribal girls respectively.
2. Non-tribal boys and non-tribal girls had significantly better in social adjustment than tribal boys and tribal girls respectively.
3. Non-tribal boys and non-tribal girls had significantly better in educational adjustment than tribal boys and tribal girls respectively.
4. Tribal boys and tribal girls had possessed more adjustment related problems than non-tribal boys and non-tribal girls respectively.

RECOMMENDATIONS

On the basis of results obtained and conclusions drawn the following recommendations were made:

1. Similar study may also be conducted for other anthropometric and motor fitness parameters for school going children.

2. In the present study only, a few psychosocial parameters were considered. A lot of more variables on psychosocial parameters with sociological perspective may throw new light.

3. Due to various reasons the present study was restricted to 13 to 15 years age group of boys' and girls' subjects. It would be worthwhile to conduct similar study on other age group also.

4. Similar study may be conducted on height-weight matched population.

References:

Acar, H., & Eler, N. (2019). The Effect of Balance Exercises on Speed and Agility in Physical Education Lessons. Universal Journal of Educational Research, 7(1), 74-79. doi:10.13189/ujer.2019.070110

Alam, M. M. (2018). Study Of Adjustment Among Senior Secondary School Students. International Journal of Creative Research Thoughts, 6(1), 47-55.

Bajaj , S., & Kaur, H. (2020). To Study Stress and Educational Adjustment among Urban and Rural School going Children. Journal of Exercise Science & Physiotherapy, 16(1), 14-18. doi:10.18376/jesp/2020/v16/i1/154128

Bihari, S. (2014). Academic Anxiety among Secondary School Students with reference to Gender, Habitat and Types of School. International Journal of Education and Psychological Research, 3(4), 30-32.

Devi, S. (2000). A comparative study of physical fitness and psychological traits of tribal and non—tribal high school students of high altitude area. Chandigarh: Department of Physical Education Panjab University.

Kangane, S., & More, S. (2013). Study on percentage body fat of 13 years school going boys in Nashik district. Variorum Multi-Disciplinary e-Research Journal, 2(4), 1-3.

Siddiqui , M. A., & Rehman, A. U. (2014). An Interactional Study of Academic Anxiety in relation to Socio-Economic Status, Gender and School type among Secondary School Students. International Journal of Educational Research and Technology, 5(2), 74-79. doi:10.15515/ijert.0976-4089.5.2.7479

Sinha, U., & Nag, S. K. (2012). Anthropometric characteristics and VO2 max of urban tribal and non-tribal boys of Tripura. Indian Journal of Scientific Research, 3(2), 111-114.