



A Study Of Health Related Parameters In Teenaged Girls In Relation To Socio- Economic Status Of Punjab

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ABSTRACT

The Purpose of the present study was to health related parameters in teenaged girls in relation to socio- economic status of Punjab. The subjects selected at random were teenaged girls (14 years to 18 years) studying in meritorious school of Punjab. studying in the following five selected schools (meritorious school Amritsar, Bathinda , jalandher, Patiala, sangurar) seven selected following districts of Punjab coming under the west zone of Punjab (Bathinda, Barnala, Faridkot, Fazilka, Mansa, Moga, Sri Muktsar Sahib). The measurement of 420 subjects (15 subject's form each selected age group. The four selected age groups (Groups -I: (14-15 years), Groups -II: (15-16 years), Groups -III (16-17 years), Groups -IV (17-18 years).The 7 selected following districts of Punjab. from each age category irrespective of their socio-economic status) selected at random, was recorded on all the selected health related fitness variables.

INTRODUCTION-“A healthy mind in a healthy body” is one of the most enchanting proverbs related to our sound health, progress, and long life. It connotes that healthy body is indispensable for a sound mind. Mind allows us to think and act judiciously for our peace and progress. Thus, the body must be healthy and vigorous. This is so because our body covers our soul, and it implies healthy body will ensure a very healthy mind. To attain the harmony of body, mind & spirit the body has to be physically fit. The ultimate fate of a nation depends on the healthy youth and the health of the general population of the nation. It is true that in this era technological revolutionary machines have replaced man in many ways whereby day to day physical work has been reduced. Routine physical work, work in fields and also processing plants has become automated. Lack of physical activity adversely affects the general health condition of humans. On the contrary methodical physical exercise spares us of illness and protects it. To accomplish the requirements of routine work, enterprise, and self-realization, we need vigorous physical health. Physical activity is a medium by which individual becomes ready to adapt the demanding conditions of modern life. The physical fitness comprises of five elements,

namely quality, speed, strength endurance, flexibility, and coordinative abilities. The improvement and preservation of physical fitness is the most imperative point of games preparation because each game requires a high level of physical conditioning and thus, fitness training is required for each game.

PROCEDURE - Again before initiating data collection process (questionnaire distribution, for classifying subjects into three selected socio-economic status and administration of various tests, for recording measurement of selected health related parameters) in the meritorious school of Punjab.

A socio-economic status scale (Standardized questionnaire) developed by Prof. Ashok .K. Kalia and Mr. Sudhir Sahu was distribution to teenaged girls studying in the meritorious school of Punjab to ascertain and assess socio-economic status of the subjects and classify them in the following selected socio-economic status : 1.High socio- economic status, 2. Medium socio- economic status, 3. Low socio- economic status. The four selected age groups for the present study were Age Groups -I: (15 years), Groups -II: (16 years), Groups -III (17 years), Groups -IV (18 years).

The date of birth given by the subjects in the questionnaire was consider the basis to categorize them into four selects age groups. Since the study deals with health related parameters, which were highly influenced by the menstruation of a teenaged girl, great care was taken that each selected subject must have attained her menstruation. Finally after scrutinizing menarche age and date of birth as declared by the subjects in the questionnaire, one hundred five girls against each of the four selected age groups at each of the three selected socio-economic status were taken.

Selection of Variables

Selection of Health Related Parameters

Keeping under consideration the available literature, administrative feasibility, modern trends and advices of the experts in the field, the following health related parameters were selected:

Health related parameters

1. **Cardio- respiratory endurance**(nine minute run/walk test)
2. **Muscular strength** (upper extremities)
 1. Grip strength- right hand
 2. Grip strength- left hand
3. **Body composition**
 1. Fat percentage

2. Fat weight
3. Lean body mass

Selection of variables related to socio- economic status

Keeping in views the requirement of the present study, the following variables related to socio- economic status were selected

1. High socio- economic status
2. Medium socio- economic status
3. Low socio- economic status

Selection of Questionnaire

Keeping in view the requirement of the study, the socio-economic status scale developed by Prof. Ashok K. Kalia and Mr. SudhirSahu was used. This is a standardized, valid, reliable and objective test/ scale. This has been widely used in our country. The major reason for choosing this questionnaire was that Prof. Ashok K. Kalia and Mr. SudhirSahuhas computed norms for the Indian population about education, occupation, income, cultural living or cultural standards and participation.

Results:

Table – 1 Two –Way Analysis of Variance of Nine Minute Run/ Walk (m) of Teenaged Girls Belonging to three Selected Socio- Economic Status Across four Selected Age Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Age	1779091.542	3	593030.514	10.927	.000
SES	24628.384	2	12314.192	.227	.797
age * SES	550138.173	6	91689.695	1.690	.123

Significant at 0.05 levels

The findings regarding two –way analysis of variance of nine minute run /walk (m) of teenaged girls belonging to three selected socio- economic status across four selected age groups are presented in Table - 1 It demonstrates that:

- The teenaged girls, irrespective of socio- economic status differed significantly when comparison of nine minute run /walk (m) was made among four selected age groups (viz.

Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) as the obtained F- Ratio (10.927) was much higher than the required value (.000) at 0.05 level of significance.

- The teenaged girls, irrespective of age groups were found to be non-significantly different when comparison of nine minute run/ walk (m) was made among three selected socio-economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) as the obtained F- Ratio (.227) was much lower than the required value (.797) at 0.05 level of significance.
- The nine minute run /walk (m) of teenaged girls was found to be statistically in significant at 0.05 level of significance when interaction comparison among three selected socio-economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) and four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) was made, as the obtained F-Ratio (1.690) was much higher than the required value (.123) at 0.05 level of significance.

Table – 2 Two –Way Analysis of Variance of Grip Strength Right Hand (kg) of Teenaged Girls Belonging to three Selected Socio- Economic Status Across four Selected Age Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
age	449.829	3	149.943	1.898	.130
SES	383.640	2	191.820	2.428	.090
age * SES	735.305	6	122.551	1.551	.161

Significant at 0.05 levels

The findings regarding two –way analysis of variance of grip strength right hand (kg) of teenaged girls belonging to three selected socio- economic status across four selected age groups are presented in Table -2 It demonstrates that:

- The teenaged girls, irrespective of socio- economic status differed significantly when comparison of grip strength right hand (kg) was made among four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) as the obtained F- Ratio (1.898) was much higher than the required value (.130) at 0.05 level of significance.
- The teenaged girls, irrespective of age groups were found to be significantly different when comparison of grip strength right hand(kg) was made among three selected socio-economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) as the obtained F- Ratio (2.428) was much higher than the required value (.090) at 0.05 level of significance.

- The grip strength right hand(kg) of teenaged girls was found to be statistically significant at 0.05 level of significance when interaction comparison among three selected socio- economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) and four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) was made, as the obtained F-Ratio (1.551) was much higher than the required value (.161) at 0.05 level of significance.

Table – 3 Two –Way Analysis of Variance of Grip Strength Left Hand (kg) of Teenaged Girls Belonging to three Selected Socio- Economic Status Across four Selected Age Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Age	353.128	3	117.709	1.735	.160
SES	455.134	2	227.567	3.353	.036
age * SES	836.693	6	139.449	2.055	.058

Significant at 0.05 levels

The findings regarding two –way analysis of variance of grip strength left hand (kg) of teenaged girls belonging to three selected socio- economic status across four selected age groups are presented in Table - 3 It demonstrates that:

- The teenaged girls, irrespective of socio- economic status differed significantly when comparison of grip strength left hand (kg) was made among four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) as the obtained F- Ratio (1.735) was much higher than the required value (.160) at 0.05 level of significance.
- The teenaged girls, irrespective of age groups were found to be significantly different when comparison of grip strength left hand (kg) was made among three selected socio- economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) as the obtained F- Ratio (3.353) was much higher than the required value (.036) at 0.05 level of significance.
- The grip strength left hand(kg) of teenaged girls was found to be statistically in significant at 0.05 level of significance when interaction comparison among three selected socio- economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) and four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) was made, as the obtained F-Ratio (2.055) was much higher than the required value (.058) at 0.05 level of significance.

Table – 4 Two –Way Analysis of Variance of Body Fat Percentage (%) of Teenaged Girls Belonging to three Selected Socio- Economic Status Across four Selected Age Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
age	393.296	3	131.099	3.115	.026
SES	232.858	2	116.429	2.767	.064
age * SES	48.777	6	8.129	.193	.979

Significant at 0.05 levels

The findings regarding two –way analysis of variance of body fat percentage (%) of teenaged girls belonging to three selected socio- economic status across four selected age groups are presented in Table - 4 It demonstrates that:

- The teenaged girls, irrespective of socio- economic status differed significantly when comparison of body fat percentage (%) was made among four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) as the obtained F- Ratio (3.115) was much higher than the required value (.026) at 0.05 level of significance.
- The teenaged girls, irrespective of age groups were found to be significantly different when comparison of body fat percentage (%) was made among three selected socio- economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) as the obtained F- Ratio (2.767) was much higher than the required value (.064) at 0.05 level of significance.
- The body fat percentage (%) of teenaged girls was found to be statistically in non- significant at 0.05 level of significance when interaction comparison among three selected socio- economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) and four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) was made, as the obtained F- Ratio (.193) was much lower than the required value (.979) at 0.05 level of significance.

Table – 5 Two –Way Analysis of Variance of Fat Weight (kg) of Teenaged Girls Belonging to three Selected Socio- Economic Status Across four Selected Age Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Age	87.260	3	29.087	2.298	.077

SES	71.373	2	35.686	2.819	.061
age * SES	86.309	6	14.385	1.136	.341
Corrected Total	4667.611	359			

Significant at 0.05 levels

The findings regarding two –way analysis of variance of fat weight (kg) of teenaged girls belonging to three selected socio- economic status across four selected age groups are presented in Table - 5 It demonstrates that:

- The teenaged girls, irrespective of socio- economic status differed significantly when comparison of fat weight (kg) was made among four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) as the obtained F- Ratio (2.298) was much higher than the required value (.077) at 0.05 level of significance.
- The teenaged girls, irrespective of age groups were found to be significantly different when comparison of fat weight (kg) was made among three selected socio- economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) as the obtained F- Ratio (2.819) was much higher than the required value (.061) at 0.05 level of significance.
- The fat weight (kg) of teenaged girls was found to be statistically in significant at 0.05 level of significance when interaction comparison among three selected socio- economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) and four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) was made, as the obtained F-Ratio (1.136) was much higher than the required value (.341) at 0.05 level of significance.

Table – 6 Two –Way Analysis of Variance of Lean body mass(kg) of Teenaged Girls Belonging to three Selected Socio- Economic Status Across four Selected Age Groups

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Age	348.859	3	116.286	1.986	.116
SES	67.937	2	33.968	.580	.560
age * SES	119.468	6	19.911	.340	.915

Significant at 0.05 levels

The findings regarding two –way analysis of variance of lean body mass (kg) of teenaged girls belonging to three selected socio- economic status across four selected age groups are presented in Table - 6 It demonstrates that:

- The teenaged girls, irrespective of socio- economic status differed significantly when comparison of lean body mass (kg) was made among four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) as the obtained F- Ratio (1.986) was much higher than the required value (.116) at 0.05 level of significance.
- The teenaged girls, irrespective of age groups were found to be significantly different when comparison of lean body mass (kg) was made among three selected socio- economic status(viz. L.S.E.S, M.S.E.S and H.S.E.S.) as the obtained F- Ratio (.580) was much higher than the required value (.560) at 0.05 level of significance.
- The lean body mass (kg) of teenaged girls was found to be statistically in non-significant at 0.05 level of significance when interactissson comparison among three selected socio- economic status (viz. L.S.E.S, M.S.E.S and H.S.E.S.) and four selected age groups (viz. Age Groups-I, Age Groups-II, Age Groups-III and Groups-IV) was made, as the obtained F-Ratio (.340) was much lower than the required value (.915) at 0.05 level of significance.

Discussion:

The combined mean values of three selected socio-economic status(namely, low socio-economic status, medium socio-economic status and high socio-economic status) irrespective of age groups for the selected health related parameters viz. cardio-respiratory endurance(nine minutes run/walk test) were observed to follow a distinct pattern. It was reported to be highest for low socio-economic status and then medium socio-economic status.

As per the finding based on analysis of variance, the teenaged girls belonging to three selected socio-economic status(namely, low socio-economic status, medium socio-economic status and high socio-economic status), irrespective of age groups demonstrated in significant difference on the selected health related parameters viz. cardio-respiratory endurance(nine minutes run/walk test) when inter socio-economic status comparison was made.

CONCLUSION:

The difference between high socio-economic status verses medium socio-economic status, high socio-economic status verses low socio-economic status teenaged girls (all age groups combined) was significant on the selected health related parameters viz. body composition components: fat percentage, and fat weight.

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