

# Measuring Physical Activity and Body Image of Bagalkot Basaveswara High School Youth

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## ABSTRACT

**Background:** Physical activity involves the coordination of various muscles, encompassing recreational activities and sports that require body movement. This study aims to explore the connection between food choices and physical activity, investigating how lifestyle factors interplay and influence overall well-being. Understanding this relationship is crucial for promoting healthier choices and a balanced lifestyle.

**Methods:** The researchers conducted a school survey at Shri Basaveshwara High School, Bagalkot selecting a total of 120 students using the stratified random sampling method. We collected primary data through research design and planning. Use the body shape and body image report to evaluate health outcomes and determine the relationship between body shape and body image and their impact on children's health education.

**Results:** Assessment of physical activity and body image and their impact on student health. Value range: 0 to 7, mean: 14.13, minimum: 0, maximum: 7, standard deviation: 3.02 percentage: 67.30%. The chi-square value is 4.14 (p-value 0.04), indicating a positive relationship between Smartphone use and student learning. The chi-square value is 10.35 (p-value 0.01), indicating a significant relationship between body and body image and its impact on student health.

**Conclusion:** Without regular physical exercise, students may miss out on vital experiences like developing communication skills, understanding cooperation, and learning to work with others, essential aspects for their overall development.

**Key-words:** Body image, Health, High school, Physical Activity, Weight

## INTRODUCTION

Physical exercise is characterized as the application of force that enhances muscular exertion and typically results in motion, offering numerous advantages for one's health. Emerging research indicates a direct correlation between physical activity and mental well-being.

Recent cross-sectional research has additionally documented a direct correlation between physical activity and body image. Furthermore, physical activity has been demonstrated to serve as a safeguard against body dissatisfaction among young individuals. Engaging in physical activity is linked to enhanced body image, particularly by improving body composition.<sup>[1-3]</sup>

Physical activity (PA) is defined as a body movement produced by skeletal muscles that increases energy and reduces time spent sitting in front of a screen. Eating and tracking are particularly associated with physical, mental and health development.<sup>[2-4]</sup> More and more young people are reporting health complaints and health concerns. These complaints increase during adolescence

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and are related to personal health. That is why self-care is an important aspect of teen health. <sup>[5,6]</sup>

Body image is defined as each person's mental and conscious representation of the structure and understanding of their own body and is influenced by understanding, knowledge, behavior, thought and leadership. <sup>[7,8]</sup> One's ability to participate in recreational activities, handle emergencies, and perform daily tasks without experiencing undue fatigue. Scientists now classify the body based on the body and its health, including morphological and structural integrity, metabolic activity, and bone health. <sup>[9,10]</sup>

## MATERIALS AND METHODS

The study was conducted at Shri Basaveshwara High School, Bagalkot using a stratified random sampling technique and a total of 120 students were selected. Primary data was collected through research design and planning. Use the Body Shape and Body Image Report to evaluate health outcomes and determine the relationship between body shape and body image and their impact on children's health education.

**Data Source-** This study focused on young people and adopts a descriptive, non-experimental research approach to analyze the level of physical activity and its influence on body image. The research method involves collecting data to elucidate the facts and characteristics of the selected sample, emphasizing a descriptive approach to meet the study objectives.

**Research Design-** A cross-sectional study is a design in which the researcher collects data at a specific point in time (10 am to 5 pm). This study is descriptive; researchers need to contact a selected group of young people and collect information about their bodies and body image. Because collecting data only once per intervention was not possible in this study, researchers deemed a cross-sectional approach appropriate.

## Variables

**Dependent variables-** In this study, the variables depend on the youth's physical activities, such as lifting weights, cycling fast, and playing daily games.

**Independent variable-** The independent variable is the adolescent's body image.

**Socio-demographic variables-** Age, gender, family type, monthly income of the family, family members, religion,

place of residence, father's education, father's profession, mother's education, and mother's job.

**Study area-** Researchers conducted the study at Shri Basaveshwara High School, Bagalkot and a total of 120 young people studied at this high school. There are 40 students in each standard, and we have selected 20 girls and 20 boys from each standard (8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup>).

**Target Group-** The target group of this study consists of young people studying at Bagalkot High School. In this study, the accessible cluster consists of youth between the ages of 13 and 17 years studying in Shri Basaveshwara High School, Bagalkot.

**Sample and sample size** of this study consisted of young people between the ages of 13 to 17. He is 39 in 8<sup>th</sup> standards, 40 in 9 standards, and 41 in 10 standards, all studying at Shri Basaveshwara High School, Bagalkot. The sample size of this study is N=120.

**Sampling Method-** The sample of this study was selected using the stratified random sampling technique. Our group is organized according to class structure. Each group was divided into two groups according to gender. As an example, the general population of Shri Basaveshwara High School, Bagalkot, participated in this study.

**Data collection tools-** Data collection tools are techniques that researchers use to observe or measure significant changes in their research questions. In this study, a sample and a prepared questionnaire were used to collect data.

**Prior Permission Obtained-** The Director of Shri BVVS Health Institute, Bagalkot, granted official permission. The researcher used a random sampling technique to select subjects that met the inclusion criteria. The researcher explained the purpose of the study to the participants and obtained their consent. The researchers conducted a pilot study in selected districts of Bagalkot between 18-02-2023 to 22-02-2023 to assess the feasibility and effectiveness of the design. We recruited twelve youths to select and self-administer standards, close-ended physical activity, and physical questionnaires.

**Statistical analysis-** Statistical analysis is the systematic organization and synthesis of research data and the use of collected data to test research hypotheses. The data were analyzed using descriptive and inferential statistics. Analyze population data using frequencies and distribution percentages. Use the mean and standard deviation to measure teens' scores. Card Group used least squares tests to find relationships between physical

activity levels and body image on selected social variables.

**Ethical Approval-** An ethical approval certificate was received from the BVV Ethics Committee and the Sajjalashri Institute of Nursing Sciences, Nawanagar Bagalkot. The mothers of children under five years of age who participated in this study provided informed consent. We protect the information and identities of youth anonymously and confidentially.

## RESULTS

Research shows that young people's physical activity varies according to height. Of the 120 young people, 61

(50.83%) showed normal growth, 52 (43.33%) showed small growth, and 7 (5.8%) were eating too much (Fig. 1).

**Table 1:** Distribution of the sample according to their socio-demographic factors

| Socio-demographic factor | Character           | Frequency | Percentage (%) |
|--------------------------|---------------------|-----------|----------------|
| Age                      | 13-14 years         | 37        | 30.83          |
|                          | 15-16 years         | 77        | 64.16          |
|                          | 17 and above        | 6         | 5              |
| Sex                      | Male                | 67        | 55.83          |
|                          | Female              | 53        | 44.16          |
| Standard of learning     | 8 <sup>th</sup>     | 41        | 34.16          |
|                          | 9 <sup>th</sup>     | 39        | 32.5           |
|                          | 10 <sup>th</sup>    | 40        | 33.33          |
| Type of family           | Nuclear             | 97        | 80.83          |
|                          | Joint               | 23        | 19.16          |
| Religion                 | Hindu               | 106       | 88.33          |
|                          | Muslim              | 13        | 10.83          |
|                          | Other               | 1         | 0.83           |
| Number of family members | 1-4                 | 39        | 32.5           |
|                          | 5-8                 | 58        | 48.33          |
|                          | 9-12                | 15        | 12.5           |
|                          | 13 and above        | 8         | 6.66           |
| Education of the mother  | No formal education | 8         | 6.66           |
|                          | Primary             | 23        | 19.16          |
|                          | High school         | 62        | 51.66          |
|                          | PUC& above          | 27        | 22.5           |
| Occupation of the mother | Government Employee | 8         | 6.66           |
|                          | Private Employee    | 12        | 10             |
|                          | Business            | 11        | 9.16           |
|                          | Housewife           | 77        | 64.16          |

|                                 |                      |     |       |
|---------------------------------|----------------------|-----|-------|
|                                 | Coolie               | 12  | 10    |
|                                 | Primary              | 19  | 15.83 |
| Education of the father         | High school          | 49  | 40.83 |
|                                 | PUC                  | 38  | 31.66 |
|                                 | Graduation and above | 14  | 11.66 |
|                                 | Unemployed           | 7   | 5.83  |
| Occupation of the father        | Coolie               | 11  | 9.16  |
|                                 | Government employee  | 19  | 15.83 |
|                                 | Private employee     | 24  | 20    |
|                                 | Business             | 59  | 49.16 |
| Family monthly income           | Rs <10,000           | 76  | 63.33 |
|                                 | Rs 10,000 to 20,000  | 24  | 20    |
|                                 | Rs>20,000            | 20  | 16.66 |
| Place of residence              | Rural                | 33  | 27.5  |
|                                 | Urban                | 87  | 72.5  |
| Hobbies for physical activities | Yes                  | 118 | 98.33 |
|                                 | No                   | 2   | 1.66  |
| Parents marital status          | Together             | 111 | 92.5  |
|                                 | Divers               | 3   | 2.5   |
|                                 | Death of parents     | 6   | 5     |

The chi-square value is 10.35 ( $p < 0.01$ ), suggesting a significant positive association between the computed chi-square value is 0.91 (0.92), suggesting that there is no statistically significant association between the religious views of young individuals and their levels of physical activity. The chi-square value of 8.43 ( $p = 0.208$ ) indicates that there is no statistically significant link between the number of family members and physical activity level in adolescents. The chi-square value of 2.13 ( $p = 0.90$ ) suggests that there is no statistically significant association between the education level and activity levels of young moms. The computed chi-square value is 11.07 ( $p = 0.19$ ), suggesting that there is no statistically

significant association between the baby's physical activity and that of young moms. The chi-square value of a Father's education is 4.35 ( $p = 0.62$ ), suggesting that there is no statistically significant association between the education level of young fathers and their physical activity levels. The computed chi-square value is 11.85 ( $p = 0.15$ ), suggesting that there is no statistically significant association between the occupation of the young person's father and their level of physical activity. The chi-square value of 2.64 ( $p = 0.61$ ) suggests that there is no statistically significant association between family income and physical activity among young individuals (Table 2).

**Table 2:** Distribution and description of the sample based on physical activity level

| Socio-demographic variables | Chi-square Value | D.f | p<0.05 |
|-----------------------------|------------------|-----|--------|
|-----------------------------|------------------|-----|--------|

|                               |       |   |        |
|-------------------------------|-------|---|--------|
| Age                           | 2.72  | 4 | 0.60*  |
| Sex                           | 10.35 | 2 | 0.01** |
| Standard of learning          | 29.54 | 4 | 0.01** |
| Type of family                | 0.71  | 2 | 0.70*  |
| Religion                      | 0.91  | 4 | 0.92*  |
| Number of family members      | 8.43  | 6 | 0.20*  |
| Education of the mother       | 2.13  | 6 | 0.90*  |
| Occupation of the mother      | 11.07 | 8 | 0.19*  |
| Education of the father       | 4.35  | 6 | 0.62*  |
| Occupation of the father      | 11.85 | 8 | 0.15*  |
| Family income                 | 2.64  | 4 | 0.61*  |
| Place of residence            | 2.34  | 2 | 0.31*  |
| Hobbies for physical activity | 3.39  | 2 | 0.18*  |
| Parents marital status        | 5.84  | 4 | 0.21*  |

$\alpha = 0.05$ ; \*All the values are statistically non-significant; \*\*All the values are statistically significant

The chi-square value of 2.34 (0.31) suggests that there is no statistically significant association between the residential location of young individuals and their levels of physical activity. Regarding interest in sports, the chi-square value of 3.39 (0.18) indicates that there is no statistically significant correlation between the level of interest young people have in sports and their actual physical activity.

The chi-square value is 5.84 ( $p=0.21$ ), suggesting that there is not a statistically significant association between the married status and physical activity of young individuals. The chi-square value of 29.54 ( $p<0.01$ ) suggests a statistically significant association between the education level of young individuals and their engagement in physical activities (Table 3).

**Table 3:** Distribution and description of samples based on their body image

| Socio-demographic variables | Chi-square Value | D.f | $p<0.05$ |
|-----------------------------|------------------|-----|----------|
| Age                         | 2.47             | 4   | 0.65*    |
| Sex                         | 1.44             | 2   | 0.48*    |
| Standard of learning        | 14.85            | 4   | 0.01**   |
| Type of family              | 0.92             | 2   | 0.63*    |
| Religion                    | 4.25             | 4   | 0.87*    |
| Number of family members    | 4.91             | 6   | 0.55*    |
| Education of the mother     | 11.53            | 6   | 0.07*    |
| Occupation of the mother    | 10.58            | 8   | 0.22*    |
| Education of the father     | 8.39             | 6   | 0.21*    |
| Occupation of the father    | 10.6             | 8   | 0.22*    |

|                               |      |   |       |
|-------------------------------|------|---|-------|
| Family income                 | 7.6  | 4 | 0.10* |
| Place of residence            | 0.54 | 2 | 0.76* |
| Hobbies for physical activity | 1.41 | 2 | 0.49* |
| Parents marital status        | 6.3  | 4 | 0.17* |

$\alpha = 0.05$ ; \*All the values are statistically non-significant; \*\*All the values are statistically significant

The chi-square value of 1.44 (0.48) suggests that there is not a statistically significant association between the gender and physical activity levels of young individuals. The chi-square value is 14.85 ( $p < 0.01$ ), suggesting a significant positive association between the education level of young individuals and their activities. The computed chi-square value is 0.92 (0.63), suggesting the absence of a correlation between the family of the young

individual and their degree of activity. The computed chi-square value is 4.25 ( $p = 0.87$ ), suggesting that there is no statistically significant association between the religious views of young individuals and their physical fitness. The chi-square score of 4.91 ( $p = 0.55$ ) indicates that there is no statistically significant link between the number of family members and physical activity level in adolescents (Table 4).

**Table 4:** Distribution and description of samples based on their body mass index

| Height for Age  | F  | Percentage (%) | BMI range   |
|-----------------|----|----------------|-------------|
| Normal          | 61 | 50.83          | 18.50-24.99 |
| Under Nourished | 52 | 43.33          | < 18.50     |
| Over Nourished  | 7  | 5.8            | > 25        |

Table 5 shows the physical activity of young people according to their height. Of the 120 young people, 61 (50.83%) showed normal growth, 52 (43.33%) showed small growth, and 7 (5.80%) were eating too much. The mean, standard deviation and percentage of young

people's physical activity scores showed that the percentage of young people's thinking ability scores was 67.30%, and the difference percentage of young people was  $14.13 \pm 3.02$ .

**Table 5:** Distribution and description of results based on physical activity level

| Variable          | Range | Mean  | S. D  | Median | Mean (%) |
|-------------------|-------|-------|-------|--------|----------|
| physical activity | 0-7   | 14.13 | 3.020 | 14     | 67.30    |

The mean, standard deviation and percentage of young people's physical activity scores showed that the percentage of young people's thinking ability scores was

48.01%, and the percentage of young people's difference score was  $28.8 \pm 5.67$  (Table 6).

**Table 6:** Distribution and description of results based on body image

| Variable   | Range | Mean | S. D | Median | Mean (%) |
|------------|-------|------|------|--------|----------|
| Body Image | 0-12  | 28.8 | 5.67 | 29     | 48.01    |

## DISCUSSION

Researchers conducted this study to measure the physical activity levels and body image of Bagalkot High

School youth. The distribution of physical activity across the 32 countries decreased from 0.80 to 0.70 for physical activity and from 0.47 to 0.39 for ST activity, but always from 0.35 to 0 for activity played by children to 0.40. The



preliminary study covered 120 of the 167 sample plots in Germany. <sup>[11-13]</sup> Results showed that “early” development, body dissatisfaction, and appearance were

associated with self-esteem in 11-year-old girls. In this study, 79% of boys and 44% of girls were satisfied with their weight; this rate was higher than in previous studies. A 5-year study of Norwegian teenagers aged 13, 15, and 18 found that body image predicted changes in depression in boys and girls. Still, there was no evidence that depression had an effect on stress on body image. <sup>[14-17]</sup>

Researchers also conducted similar studies in European and North American countries. Our analysis shows that more than 80% of young people aged 11–17 in school worldwide did not meet today's recommendations in 2016 and that these children can stay healthy now and into the future. In summary, our analysis provides the first estimates of physical frailty in 146 countries and examines global, regional, and national trends in physical frailty as 1.6 million young people attend school. <sup>[18-23]</sup>

The results of this research are similar to the research in Estonia. The current findings support a model of motivational processes that is based on self-determination and is often consistent with research hypotheses. The range is 0.10 to 0.19. Studies using self-reported measures of physical activity explain a difference of 15% to 29%. The current findings are more common in girls than boys. Additionally, findings show that girls are more motivated than boys in terms of motivational processes and physical goals (469). <sup>[24-26]</sup> Compare results from other studies showing malnutrition: United States: 22% to 26%, Canada 16%, Japan 35%, South Africa 21.2%, Turkey 45.2%, Singapore 10.5%, our results are the same as compared to these. Eating disorders were negatively associated with body mass index ( $r=-0.181$ ,  $n=191$ ,  $p=0.12$ ).

## CONCLUSIONS

Our study concluded that youngsters who played sports on a regular basis had more favorable body ideals and better weight statuses than their peers who did not play sports. In addition, males who did not participate in sports during adolescence experienced body image problems at the same rate as girls, even though women experienced higher degrees of depression and anxiety regarding their appearance. Accordingly, the latest

research validates the beneficial impacts of sports on body image and could encourage youth to adopt more active, healthier lifestyles and to develop greater self-awareness. In order to promote and raise awareness regarding youth sports participation among young people and the adults in their immediate surroundings—such as teachers, parents, and educators—more effort needs to be made.

Teachers and educators need to be more aware of the value of proper body-image perspectives in order to encourage healthy lifestyles and a positive body image in teenagers, especially in the setting of schools. Students will benefit from this and become more aware of the problem. A body image assessment might be required in order to identify kids who are at risk.

## CONTRIBUTION OF AUTHORS

**Research proposal:** Prof. Jayashri Itti, Lakshmauva Gondi

**Research design:** Lakshmauva Gondi

**Supervision:** Lakshmauva Gondi

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**Critical review:** Lakshmauva Gondi

**Editor of the article:** Lakshmauva Gondi

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