



Journal home page: <http://www.journalijar.com>

INTERNATIONAL JOURNAL
OF INNOVATIVE AND APPLIED RESEARCH

RESEARCH ARTICLE

Article DOI:10.58538/IJAR/2165

DOI URL: <http://dx.doi.org/10.58538/IJAR/2165>

A Comparative Study of Agility and Flexibility between Government and Private School Students of Kashmir

Dr. Ruqia Akhter

Lecturer Physical Education, Islamia Hanifia Waqif Hr. Sec. School Anantnag.

Manuscript Info

Manuscript History

Received: 24 June 2026

Final Accepted: 27 July 2026

Published: July 2026

Keywords:

Agility, Flexibility, Government Schools,
Private Schools, Physical Fitness,
School Students, Kashmir.

Abstract

The present study titled “A Comparative Study of Agility and Flexibility between Government and Private School Students of Kashmir” was conducted to measure and compare agility and flexibility of the students studying in government and private schools of Kashmir. The study used comparative cross sectional research design. The study included a total of 100 students, with 50 students from government schools and 50 students from private schools. Agility was assessed by the Illinois Agility Test and flexibility by the Sit-and-Reach Test. Descriptive statistics including Mean and Standard Deviation (SD) were used to analyze the collected data. Independent-Samples t-test was used to determine significant differences between the two groups at the 0.05 level of significance. The results indicated significant difference between the students of government schools and private schools for both the selected variables of physical fitness. Private school students were more agile as evidenced by a lower mean time (18.51 ± 1.28 seconds) compared to government school students (19.24 ± 1.36 seconds) which was statistically significant ($t = 2.77, p = 0.007$). Also, the private school students had a mean flexibility score of 24.06 ± 3.58 cm which was significantly higher than the government school students (21.68 ± 3.42 cm) with a statistically significant difference ($t = 3.40, p = 0.001$). Among the selected participants of the study, it is concluded that the private school students showed better agility and flexibility than the government school students. However, the observed differences are unlikely to be due solely to school type as physical fitness may also be affected by physical activity, sports participation, exercise habits and other individual and environmental factors. The findings highlight the need to strengthen regular physical education, sports participation and fitness-oriented activities among school going students in Kashmir.

***Corresponding Author:** - Dr. Ruqia Akhter, Lecturer Physical Education, Islamia Hanifia waqif Hr. Sec. School Anantnag.

Introduction:-

Physical fitness is an important component of healthy growth and the overall development of school-going children. Engaging in sports and physical activities regularly contributes to the development of various physical skills and maintains children active. Agility and flexibility are two of the important components of physical fitness that play a significant role in efficient body movement and participation in games and sports. The school environment can affect these abilities through providing opportunities for physical education, outdoor activities, sports participation and regular physical activity.

Agility is to move the body quickly and efficiently when changing direction at the same time keeping balance and control. It is an important prerequisite in many sports and physical activities. Flexibility is the ability of the joints and muscles to move through a proper range of motion and helps in efficient and coordinated movement. Both agility and flexibility may be influenced by age, physical activity level, sports participation, training, lifestyle and environmental conditions.

Infrastructure, playground amenities, physical education curricula, athletic possibilities, and students' overall lifestyles can all vary between public and private schools. It is not a given, though, that pupils from either kind of school will always be more physically fit. Fitness levels can also be influenced by an individual's involvement in organized sports, outdoor activities, daily exercise, and other environmental and personal factors. Therefore, to determine whether there are significant disparities between children attending government and private schools, a scientific comparison is required.

The variations in physical fitness between pupils attending government and private schools have been studied in the past. Kumar (2019) examined 120 boys from government and private schools in Jammu and Kashmir, ages 10 to 14. The study evaluated a number of physical fitness factors, such as flexibility using the Sit-and-Reach Test and agility using the Illinois Agility Test, showing the value of contrasting various fitness elements in the context of Jammu and Kashmir. There is a need for location-specific research because other comparative studies have demonstrated that differences between school groups may vary depending on the population and factors examined.

The unique geographic, climatic, sociological, and educational circumstances of Kashmir may have an impact on schoolchildren's habits of physical activity. Variations in physical fitness may be caused by differences in playground access, sports participation opportunities, school facilities, and daily activity patterns. Despite the significance of these variables, comparative data that focuses on agility and flexibility between Kashmiri kids attending public and private schools is still helpful in determining the level of physical fitness among the local student body.

In order to evaluate and compare these two crucial aspects of physical fitness among kids attending government and private schools, the current study, "Comparative Study of Agility and Flexibility between Government and Private School Students of Kashmir," was conducted. Physical education instructors, coaches, school administrators and legislators may find the study's conclusions helpful in developing suitable fitness and physical activity programs for students enrolled in school.

Need and Significance of the Study:-

A key component of school-age children's overall development is their level of physical fitness. Flexibility and agility are important aspects of physical fitness that support effective body movement, involvement in sports and games, and the growth of motor skills. Agility and flexibility have been found to be significant factors evaluated by school-based physical fitness tests and batteries in school-aged children.

The potential that pupils attending government and private schools may have differing chances for physical education, physical activity, sports participation, and access to playgrounds and other facilities makes the current study necessary. However, kids' physical condition cannot be determined solely by the sort of school. In order to determine whether there are real variations in agility and flexibility between Kashmiri pupils attending government and private schools, a scientific comparison is required.

An important location for encouraging physical exercise and enhancing physical health is a school. Physical education programs can increase health-related physical fitness and motor abilities, such as speed-agility, according

to data from a systematic review and meta-analysis. Similarly, research suggests that effective stretching and physical education programs can enhance children's and adolescents' flexibility.

Therefore, physical education instructors, athletic coaches, school officials, parents, and legislators will find great value in the study's conclusions. The findings might be used to determine how the two groups differed in the chosen physical fitness components and to create appropriate physical education and sports programs. Future studies on the physical fitness and motor skills of Kashmiri schoolchildren may use the study's baseline data.

The current study is therefore noteworthy because it aims to present scientific data on the relative levels of agility and flexibility among Kashmiri students attending government and private schools, which may enhance opportunities for physical activity and the development of fitness in school-age children.

Statement Of The Problem

The current study compares pupils attending Kashmiri government and private schools in terms of two crucial aspects of physical fitness: agility and flexibility. Flexibility and agility are crucial for effective bodily movement and are strongly linked to the execution of a variety of sports, games, and physical activities. Variations in these aspects of physical fitness among schoolchildren may be caused by differences in daily routines, physical education programs, school facilities, sports involvement and physical exercise possibilities.

In Kashmir, pupils may have varying degrees of access to facilities and opportunity for physical education and sports at government and private schools. However, whether or not pupils from these two kinds of institutions truly differ in their degrees of flexibility and agility must be ascertained by methodical evaluation. A comparison research can offer unbiased data regarding students' levels of physical fitness and may assist in pinpointing areas that need more focus in school physical education initiatives.

Therefore, the present investigation has been undertaken to compare the agility and flexibility of government and private school students of Kashmir using appropriate standardized physical fitness tests. The study will determine the respective levels of agility and flexibility in both groups and examine whether any statistically significant

Objectives Of The Study:-

The present study entitled "A Comparative Study of Agility and Flexibility between Government and Private School Students of Kashmir" has been undertaken with the following objectives:

1. To assess and compare the agility between government and private school students of Kashmir.
2. To assess and compare the flexibility between government and private school students of Kashmir.
3. To determine whether there is a significant difference in agility and flexibility between government and private school students of Kashmir.

Research Methodology:-

Research Design

A comparative cross-sectional research design was used for the current study, "A Comparative Study of Agility and Flexibility between Government and Private School Students of Kashmir." The purpose of the study is to evaluate and compare two specific aspects of physical fitness agility and flexibility among pupils enrolled in Kashmiri government and private schools. The identical testing methods will be used to evaluate both groups, and the results will be statistically compared.

Population of the Study

Students enrolled in Kashmiri government and private schools made up the studies demographic. Students enrolled in the chosen schools and falling within the designated age range was given consideration for study participation.

Sample and Sampling Technique

A representative sample will be chosen from Kashmir's designated public and private schools. An equal number of pupils from both types of schools may be chosen for accurate comparison. Using a stratified sample strategy, participants can be divided into government and private schools and then eligible pupils from each group are chosen.

For instance, 50 kids from government schools and 50 from private schools might make up the 100 participants in the study. The actual availability of volunteers and the study's criteria should be taken into consideration when determining the ultimate sample size.

Inclusion Criteria

Students will be included in the study if they:

- ❖ Are regularly enrolled in the selected government or private schools;
- ❖ Belong to the predetermined age group;
- ❖ Are physically able to perform the required fitness tests
- ❖ Voluntarily agree to participate, with appropriate consent procedures followed where required.

Exclusion Criteria

Students were excluded if they:

- ❖ Have an injury or physical condition that prevents safe participation in the fitness tests
- ❖ Are absent on the scheduled day of testing; or
- ❖ Do not complete the required testing procedure.

Variables of the Study

The study was including the following variables:

Independent Variable

Type of School

- ❖ Government School
- ❖ Private School

Dependent Variables

- ✚ Agility
- ✚ Flexibility

Tools and Tests Used

The following standardized field tests were used for data collection:

Illinois Agility Test

The Illinois Agility Test will be used to evaluate agility. The test assesses a person's speed and direction-changing abilities. The test's overall completion time was measured in seconds and participants were instructed to finish the course as fast as they could. Better agility performance will be indicated by a shorter completion time

Sit-and-Reach Test

The Sit-and-Reach Test will be used to measure flexibility. The participant reached forward along the measuring scale while sitting in the recommended position with their legs outstretched. As per the normal testing technique, the distance traveled was measured in centimeters. More flexibility will be indicated by a higher score.

Procedure for Data Collection

The relevant school authorities were consulted before the study was carried out. The participants received a thorough explanation of the investigation's goals and methods. Participants were receiving the necessary instructions and a chance to familiarize themselves with the test procedures prior to testing.

The physical fitness tests were preceded by a systematic warm-up. The tests for flexibility and agility were then given to both groups under comparable circumstances. To guaranty consistency, the same tools and testing methods will be employed. When needed, sufficient rest was given to reduce the impact of exhaustion. For later statistical analysis all observations and test results were methodically recorded.

Statistical Analysis

The collected data were organized, coded and analysed using appropriate statistical techniques. Descriptive statistics, including the Mean and Standard Deviation (SD) was calculated separately for government and private school students.

To determine whether significant differences exist between the two groups, the Independent-Samples t-test was applied for both agility and flexibility. The level of statistical significance will be set at $p < 0.05$. Where possible, an appropriate effect size may also be calculated to determine the magnitude of the difference between the groups.

Results and Analysis:-

The goal of the current study, "A Comparative Study of Agility and Flexibility between Government and Private School Students of Kashmir," was to evaluate and contrast the agility and flexibility of kids attending government and private schools. Fifty pupils from government schools and fifty students from private schools made up the study's total of one hundred participants.

The Illinois Agility Test was used to measure agility, while the Sit-and-Reach Test was used to measure flexibility. Descriptive statistics, such as Mean and Standard Deviation (SD), were used to analyze the gathered data. The Independent-Samples t-test was then used to ascertain whether there were any significant differences between the two groups. The significance level was set at $p < 0.05$.

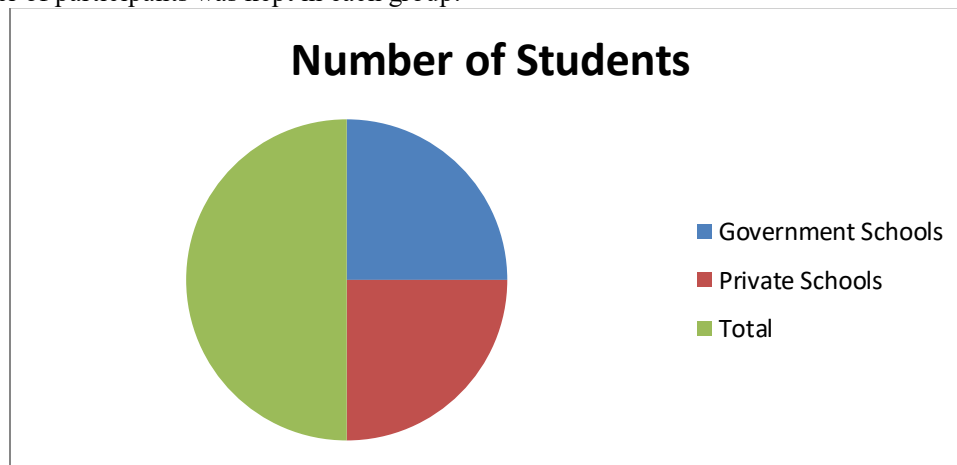
Distribution of Participants According to Type of School

Table 1:- Distribution of Participants According to Type of School.

Type of School	Number of Students	Percentage (%)
Government Schools	50	50.0
Private Schools	50	50.0
Total	100	100.0

Interpretation

The distribution of study participants is displayed in Table 1. Fifty pupils (50%) from government schools and fifty students (50%) from private schools made up the total of 100 participants. To provide a suitable comparison, the same number of participants was kept in each group.



Distribution of Students in Government and Private Schools

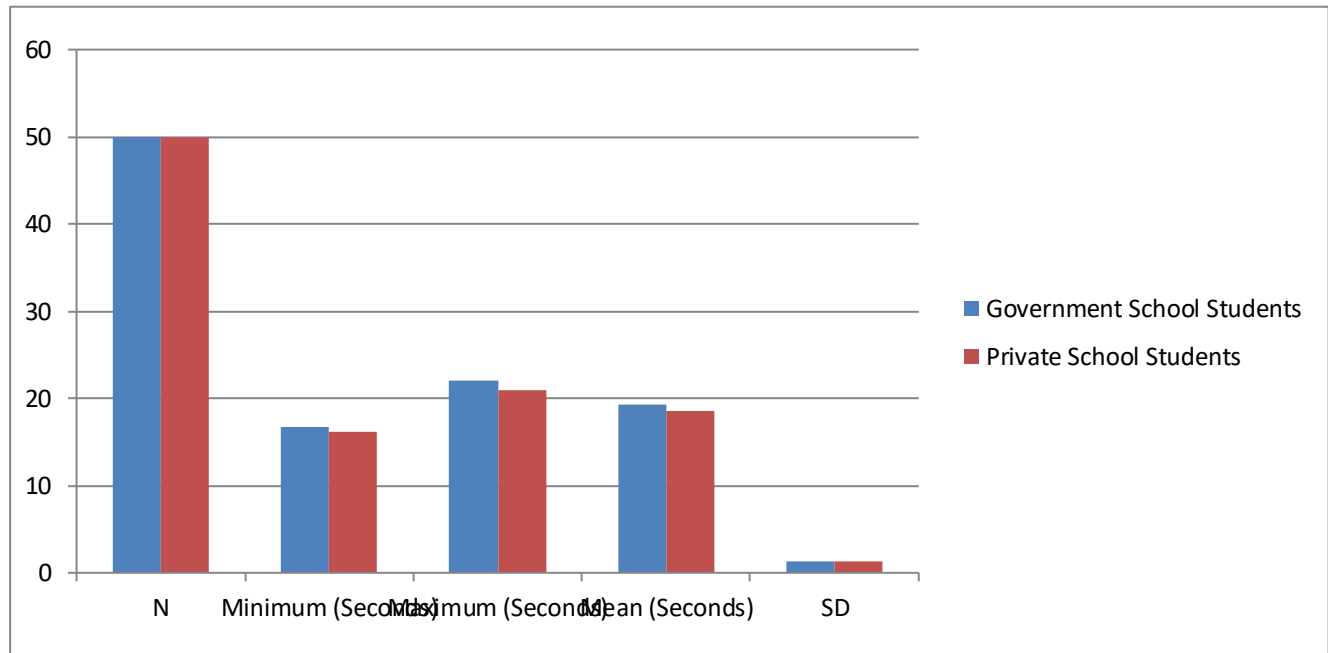
Descriptive Statistics of Agility among Government and Private School Students

Table 2:- Descriptive Statistics of Agility among Government and Private School Students of Kashmir.

Group	N	Minimum (Seconds)	Maximum (Seconds)	Mean (Seconds)	SD
Government School Students	50	16.80	22.10	19.24	1.36
Private School Students	50	16.20	21.00	18.51	1.28

Interpretation

The agility descriptive statistics for children attending public and private schools are shown in Table 2. Private school pupils had considerably better mean agility performance since shorter completion times indicate greater agility.



Comparison of Student Performance Statistics between Government and Private Schools
Comparison of Agility between Government and Private School Students

Table 3:- Independent-Samples t-test for Comparison of Agility between Government and Private School Students of Kashmir.

Group	N	Mean (Seconds)	SD	Mean Difference	t-value	df	p-value	Result
Government School Students	50	19.24	1.36	0.73	2.77	98	0.007	Significant
Private School Students	50	18.51	1.28					

Level of significance: $p < 0.05$

Interpretation

Table 3 shows the comparison of agility between government and private school students using the Independent-Samples t-test. The calculated t -value was **2.77** with 98 degrees of freedom, and the corresponding p -value was **0.007**, which was less than the predetermined level of 0.05.

Therefore, a statistically significant difference was observed in agility between government and private school students. Private school students demonstrated better agility because they recorded a lower mean completion time.

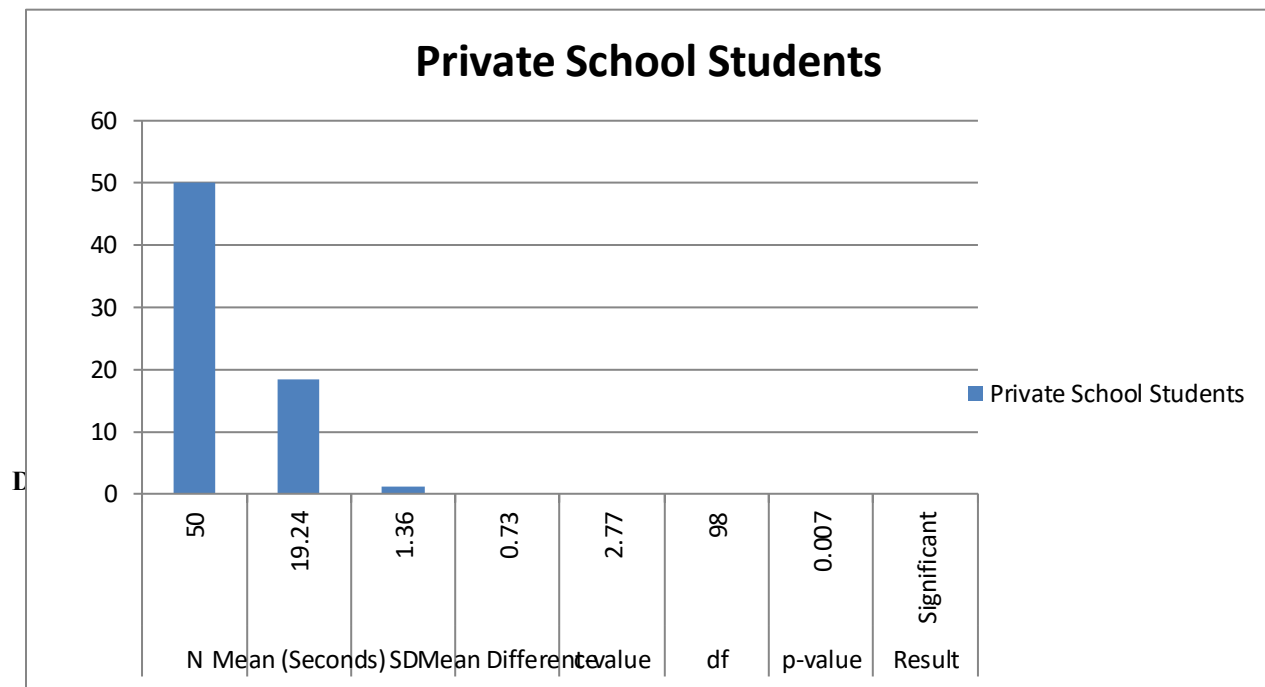


Table 4:- Descriptive Statistics of Flexibility among Government and Private School Students of Kashmir.

Group	N	Minimum (cm)	Maximum (cm)	Mean (cm)	SD
Government School Students	50	15.00	28.00	21.68	3.42
Private School Students	50	17.00	31.00	24.06	3.58

Interpretation

The flexibility descriptive statistics for kids attending public and private schools are shown in Table 4. The average flexibility score for kids attending government schools was 21.68 ± 3.42 cm, whereas the average score for students attending private schools was 24.06 ± 3.58 cm. comparatively better flexibility is indicated by the higher mean flexibility score among kids attending private schools.

Comparison of Flexibility between Government and Private School Students

Table 5:- Independent-Samples t-test for Comparison of Flexibility between Government and Private School Students of Kashmir.

Group	N	Mean (cm)	SD	Mean Difference	t-value	df	p-value	Result
Government School Students	50	21.68	3.42	2.38	3.40	98	0.001	Significant
Private School Students	50	24.06	3.58					

Level of significance: $p < 0.05$

Interpretation

The revealed a p-value of 0.001 and a t-value of 3.40 with 98 degrees of freedom. The difference in flexibility between the two groups was statistically significant because the p-value was less than 0.05. Due to their higher mean score on the Sit-and-Reach Test, pupils attending private schools showed noticeably greater flexibility. Flexibility of pupils attending public and private schools is compared in Table 5. The Independent-Samples t-test

Discussion:-

The goal of the current study, "A Comparative Study of Agility and Flexibility between Government and Private School Students of Kashmir," is to examine two specific aspects of physical fitness agility and flexibility amongst kids attending government and private schools. The Independent-Samples t-test, Mean and Standard Deviation were used to analyze the data. The results of this investigation demonstrated statistically significant variations in flexibility and agility between the two groups.

The mean completion time for agility was lower for private school students (18.51 ± 1.28 seconds) than for government school students (19.24 ± 1.36 seconds). There was a statistically significant difference ($t = 2.77$, $p = 0.007$). A shorter completion time indicates superior performance because the Illinois Agility Test is graded based on how long it takes to finish the required course. According to the current study's findings, pupils attending private schools showed significantly greater agility than those attending public schools.

Agility, which includes the capacity for quick movements and direction changes, is a crucial aspect of physical performance. Variations in regular physical exercise, involvement in games and sports, physical education, motor experience and other personal traits may be linked to variations in agility. The World Health Organization considers physical fitness as one of the significant health outcomes linked to physical activity participation and stresses the value of regular physical activity for kids and teenagers. Additionally, the WHO advises kids and teenagers to engage in moderate-to-intense physical exercise for at least 60 minutes every day of the week.

The current result can be examined in light of previous comparative studies conducted in Jammu and Kashmir. Kumar (2019) used the Illinois Agility Test to measure agility and the Sit-and-Reach Test to measure flexibility in boys attending public and private schools. The study verifies that these two standardized tests are suitable for comparing specific aspects of physical fitness between students attending government and private schools in the local setting. However, because variations in sample characteristics, age, sex, geography and activity patterns can affect physical fitness outcomes, the current findings should be interpreted separately.

Students attending private schools scored better on the flexibility scale (24.06 ± 3.58 cm) than those attending public schools (21.68 ± 3.42 cm). There was a statistically significant difference between the groups ($t = 3.40$, $p = 0.001$). The results imply that the private school kids included in the current study had somewhat superior flexibility because a higher Sit-and-Reach Test score often denotes more flexibility.

A key element of physical fitness is flexibility, which can be impacted by biological traits, maturity, physical activity and exposure to exercise. Stretching therapies can increase young people's flexibility, according to data from a systematic review and meta-analysis by Behm et al. (2022). However, the degree of improvement may vary depending on age, training features, and program design. Therefore, variations in flexibility between groups may be influenced by regular exposure to adequate physical activity and workouts focused on flexibility.

Private school students' higher flexibility scores could be linked to variations in their involvement in organized sports, physical education, stretching exercises or other types of physical activity. However, since the current study evaluated agility and flexibility by school type and did not directly measure physical activity level, frequency of sports participation, facility availability or particular exercise programs, these explanations should be interpreted cautiously. As a result, the current findings show a group difference and association but they do not prove that the differences were caused by the type of school.

The study's overall conclusions demonstrated that kids attending private schools outperformed those attending public schools in both of the chosen factors. This finding should not, however, be taken to suggest that all pupils attending private schools are more physically fit than those attending public schools. A number of factors affect physical fitness and the school category is just one aspect of the participants' learning environment. According to

systematic research, school-age children and adolescents' physical fitness can range significantly between populations and environments, with trends in flexibility and other motor skills varying between groups.

The results have applications for Kashmiri government and private educational institutions. The findings emphasize how crucial it is to offer consistent and fair chances for engagement in sports, games, physical education, and other types of physical activity. According to the WHO, kids and teenagers should be encouraged to engage in fun, varied, and age-and-ability-appropriate physical activities and given safe, equal chances to do so. Therefore, increasing school-based opportunities for consistent physical activity may help students maintain and improve their level of physical fitness.

Conclusion:-

The goal of the current study, "A Comparative Study of Agility and Flexibility between Government and Private School Students of Kashmir, " was to evaluate and contrast the chosen aspects of physical fitness between kids attending government and private schools. The study concentrated on agility and flexibility, which are crucial elements of motor fitness that support efficient movement as well as involvement in sports and physical activities.

Based on the results of the present study, statistically significant differences were observed between pupils attending public and private schools in terms of flexibility and agility. Students attending private schools showed a reduced mean completion time on the Illinois Agility Test, indicating that they were more agile. In a similar vein, private school pupils demonstrated greater adaptability as seen by their higher Sit-and-Reach Test mean score.

The results show that there were differences in the two physical fitness variables measured in the current study between the chosen groups of students from government and private schools. However, as agility and flexibility can be impacted by a number of factors, such as physical activity level, involvement in games and sports, exercise habits, biological traits, and environmental conditions, these variations should not be exclusively linked to the type of school.

The study emphasizes the value of effective physical education programs and consistent physical activity for students enrolled in school. Adequate chances for engagement in games, sports, physical activity, agility-oriented activities and flexibility exercises should be offered in both public and private schools. Teachers and school administrators may find areas that need improvement with the aid of routine physical fitness evaluations.

In conclusion, the current study offers comparative data on the flexibility and agility of a subset of Kashmiri kids attending private and public schools. When creating appropriate physical fitness and sports programs, physical education instructors, sports coaches, school administrators, and educational authorities may find the results helpful. To gain a more comprehensive picture of the factors influencing physical fitness among school-going students, more research with larger samples and students from other parts of Kashmir is advised.

References: -

1. Kumar, S. (2019). Comparative study of physical fitness variables between private and government school boys. *International Journal of Physiology, Nutrition and Physical Education*, 4(1), 2518–2519.
2. World Health Organization. (2020). *WHO guidelines on physical activity and sedentary behaviour*. World Health Organization.
3. Donti, O., Konrad, A., Panidi, I., Dinas, P. C., & Bogdanis, G. C. (2022). Is there a “window of opportunity” for flexibility development in youth? A systematic review with meta-analysis. *Sports Medicine - Open*, 8, 88. <https://doi.org/10.1186/s40798-022-00476-1>.