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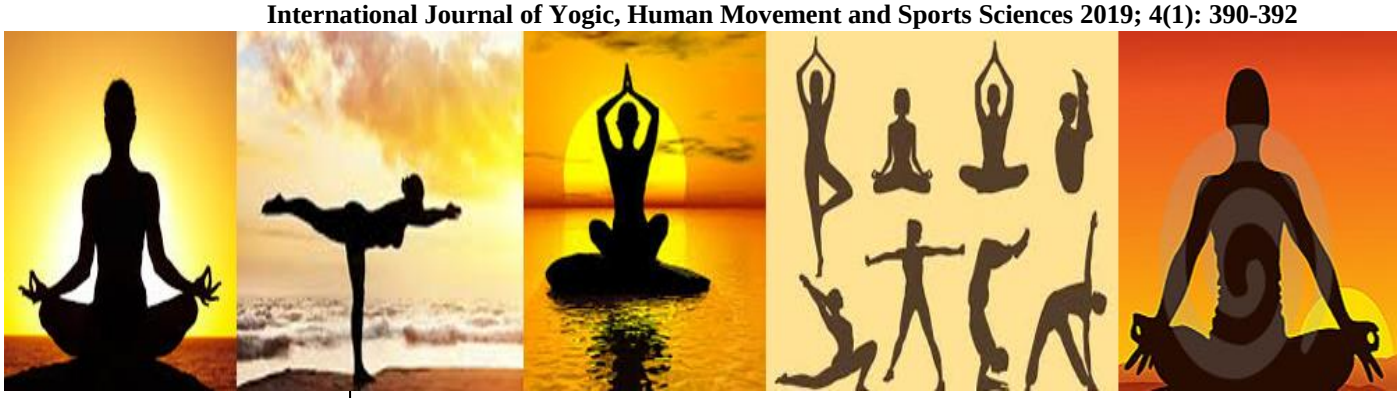

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Comparison of physical fitness between low altitude and moderate altitude male school children

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Abstract
Study was conducted on the physical parameter of school children from two altitude levels from Jammu And Kashmir State. Total number of subjects selected for the study were two hundred and fifty two (252). The subjects were taken from the class 8th and 9th between the Age group of 10 to 13 years. The researcher selected the subjects for the study of male school children from different high schools in (J&K).The information regarding the tests and collection of data was discussed with the students, so that they will cooperate and give good results for the study. The selected variable for the study was agility, (20 m shuttle run) of which best of the three trials was recorded. At the result of the test the researcher did not find any significant difference between the three sources (altitude, district and age). The data was Collected and analyzed by using Statistical Package for Social Sciences (SPSS) version 21.0 by applying 2 × 3 × 3 factorial ANOVA. The level of significance was fixed at 0.05.

Keywords: Physical parameter, agility, school children, SPSS, ANOVA

Introduction
Physical fitness has been decreased from last decades. Because of less intention towards fitness and health. The reason behind this may be the lack of interest, lack of equipment facility and ground and much more. To be physically fit one must have to make it compulsory to do physical activities. The maintaining of one's physical fitness, it is essential to perform the activities and to remove disease causing habits like, sleeping too much, eating plenty of carbohydrates, fats, proteins, less taking of water, etc. therefore, physical fitness setting seems to be particularly relevant in the establishment of healthy lifestyle and healthy weight.
The definitions and discussions have been given and discussed by the previous researchers depending on their research work, weather it may be scientific, experimental, survey or any other research. But, focus on fitness of individuals should be the primary concern over (physical, physiological, psychological). To develop the fitness components for the betterment of future generation, necessary steps should be taken to overcome the situation step by step as we should start it from the childhood to begin the process.
It is necessary for children's well-being which plays an important role affecting the cardio respiratory, muscular system, neurological solution and secretion of enzymes for the benefit of development. Therefore study of school children should be done in order to enhance the fitness of school children for their coming life. At the beginning by developing the interest of fitness, will help them to struggle according to the hurdles in life.

Methods
Subjects
For the accomplishment of the study two hundred and fifty two (252) male school children were selected as subjects for the study from different high school of Jammu and Kashmir state. From there six districts were selected and from each district three schools were selected for the accomplishment of the data collection. The data was collected in a proper way for which the researcher received proper consent from the higher authorities especially from Zonal education officer and head of the institutions after that further process was done. The importance of the study was discussed with the subjects and with the head of the institutions, in the presence of physical education teacher.

The subjects were selected on by using the stratified sampling technique. The co-operation of the subjects was very good while taking the tests.

Variables and tests

For the accomplishment of the study agility was measured of the pre-adolescent school children. The test for the study was done by 10 m shuttle run (three trials were given and minimum time was recorded). The study provides us relevant information about the physical fitness of the school children.

Statistically technique

The present investigation was statistically analyzed by using the 2 x 3 x 3 factorial ANOVA. By applying these tests the researcher would found significant difference on physical parameters between the low and moderate altitude of school children.

Results

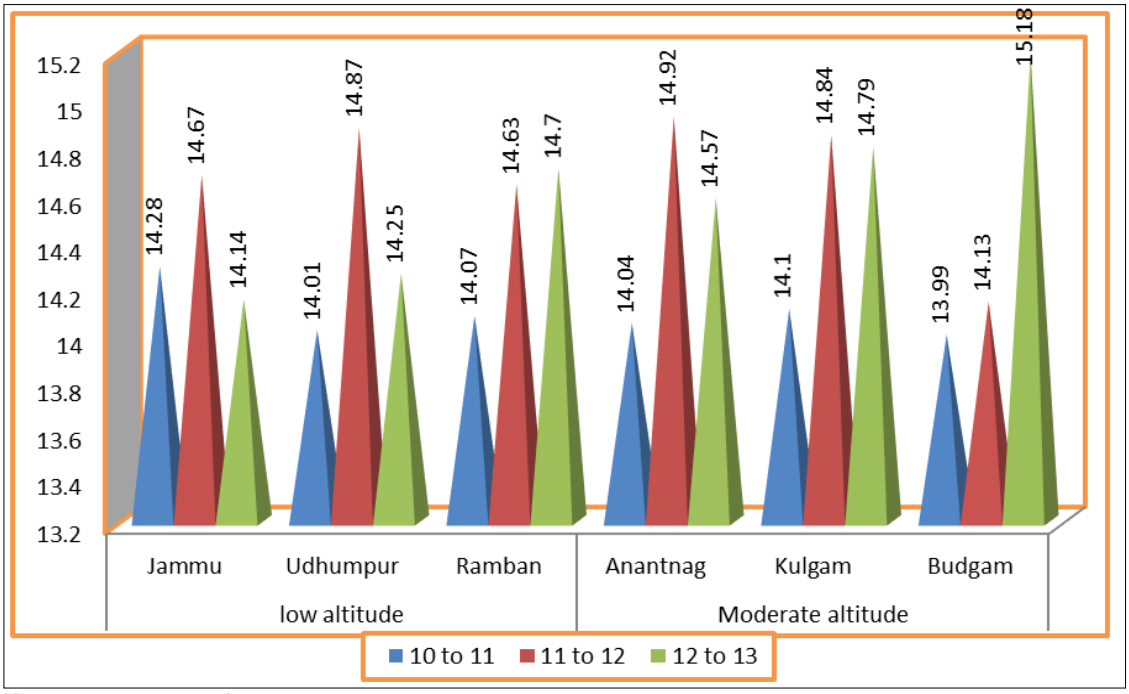
The mean and standard deviation in body mass index between low and moderate altitude regions male students (Table -1).

Table 1: Mean and Standard Deviation on Agility

Altitude	District	Age	Mean	Std. Deviation	N
Low Altitude	Jammu	Age 10-11	14.2836	.39318	14
		Age 11-12	14.6721	.44656	14
		Age 12-13	14.1457	.74960	14
	Udhumpur	Age 10-11	14.0157	.61155	14
		Age 11-12	14.8779	.50786	14
		Age 12-13	14.2571	.63697	14
	Ramban	Age 10-11	14.0786	.40897	14
		Age 11-12	14.6357	.50338	14
		Age 12-13	14.7064	.83315	14
Moderate Altitude	Anantnag	Age 10-11	14.0450	.36924	14
		Age 11-12	14.9221	.51517	14
		Age 12-13	14.5771	1.01065	14
	Kulgam	Age 10-11	14.1036	.30809	14
		Age 11-12	14.8471	.85383	14
		Age 12-13	14.7929	.54164	14
	Budgam	Age 10-11	13.9957	.50669	14
		Age 11-12	14.1329	.56930	14
		Age 12-13	15.1843	.69251	14

(***Sources*:** primary Data)

Agility measured between low and moderate altitude region reveals no significant difference, irrespective of districts and age as the obtained *F* ratio of 1.807 is less than the required table value of 3.882 at α = 0.05 for the df of 1 and 234. However, the findings also disclose there is no significant difference on agility between districts irrespective of altitude and age, since the obtained *F* ratio of 0.100 is less than the required table value of 3.882 at α = 0.05 for the df of 1 and 234. Further, the findings disclose that there is significant difference on agility among different age group irrespective of altitude and districts as the obtained *F* ratio of 23.89 is greater than the required table value of 3.882 at α = 0.05 for the df of 1 and 234.



(***Sources*:** primary Data)

Fig 1: Graphical representation of Data on Agility

Table 2: Summary of ANOVA for 2 × 3 × 3 factorial experiments on Agility

Source of Variation	SS	df	M S	F	Sig.
Between *Ss*					
Altitude	.670	1	.670	1.807	.180
District	.074	2	.037	.100	.905
Age	17.704	2	8.852	23.892	.000
Altitude * District	.635	2	.318	.857	.426
Altitude * Age	4.517	2	2.259	6.096	.003
District * Age	9.030	4	2.258	6.093	.000
Altitude * District * Age	1.803	4	.451	1.216	.305
Error	86.700	234	.371		

(***Sources*:** primary Data)

The study also reveals that there is no significant difference exists on agility among the interaction of altitude and district, irrespective of age as the obtained *F* ratio of 0.857 is less than the required table value of 3.034 at α = 0.05 for the df of 2 and 234. Moreover, the interaction of altitude and age, significant difference was found irrespective of district as the obtained *F* ratio of 6.096 is greater than the required table value of 3.034 at α = 0.05 for the df of 1 and 234. Similarly, the findings disclose there is significant difference on agility among the interaction of district and age, irrespective of altitude since the obtained *F* ratio of 6.093 is greater than the required table value of 3.034 at α = 0.05 for the df of 1 and 234. Further, the findings disclose that there is no significant difference on agility among the interaction of altitude, District and age as the obtained *F* ratio of 1.216 is less than the required table value of 3.034 at α = 0.05 for the df of 1 and 234.

Discussion

The study on physical parameter was done on the two regions of Jammu And Kashmir State. The study on physical parameter of pre-adolescent school children from (low and moderate altitude). The results of the study shows insignificant difference on agility among the interaction of altitude, district and age as the obtained F ratio of 1.216 is less than the required table value of 3.034 (p<0.05) for the df of 1 and 234. Results of the study were also supported as the studied by (Kaplan, 2009) [2] studied that professional soccer Players agility performance are higher than amateur soccer players. In addition these results indicate that all soccer players have agility performance in accordance with their different playing positions. As by (Binod, 2016) [1] studied that the agility of Kho-Kho players are better than Kabaddi players.

Conclusion

It was concluded that no significant difference found among the school children living in the low and moderate altitude regions in (J&K). As the results shows that there is no interaction found between altitude, district and age of the subjects on the physical parameter agility.

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