

COMPARISON OF INCREASE IN INTEREST IN PHYSICS OF MALE AND FEMALE STUDENTS FROM SATARA DISTRICT OF MAHARASHTRA

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Abstract:

The present study aims to compare increase in interest in physics of Male and Female Students. Physics is an important subject in science. It has vital importance in all fields. In Maharashtra State at +2 level in science Physics is compulsory subject for board examination and also for all types of CET examinations. Students feel this subject difficult one. In the examinations at state level that is MHT-CET and also in examinations at national level i.e. JEE, JEE-advance, NEET, etc Physics is compulsory subject. If we increase the interest of students in Physics then it is possible for students to face all the examinations confidently and achieve the success in it.

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Introduction:

At higher secondary level or at +2 level the age group of students is between 15-18 years. This is very sensitive age group. These students face difficulties concentrating on their study because of hormonal changes. In science stream as compared with Chemistry, Biology, Mathematics & other subjects Physics is harder subject. Many students get failure in this subject. In Physics Mathematics plays important role in solving numerical & also experimental calculations. For understanding the basic principles of Physics, Mathematics is needed. For Physics students needs to understand some simple and basic things or concepts, utilize the knowledge of Physics, to do some necessary calculations in mind, to imagine some ideas, etc.

To measure the interest in Physics researcher developed an interest inventory for Physics, and used it to determine interest.

Objectives of the study:

For the present study following are the objectives of study.

- 1) To compare the increase in interest of male and female students in Physics as per their schools.
- 2) To compare the increase in interest of male and female students in Physics as per their Parents income.

Sample:

For the current study researcher selected population from Satara district by random sampling method. From that he used 22 junior colleges. The XII Std Science students from these colleges were selected randomly.

Table No. 1 (Table showing junior colleges from Satara district)

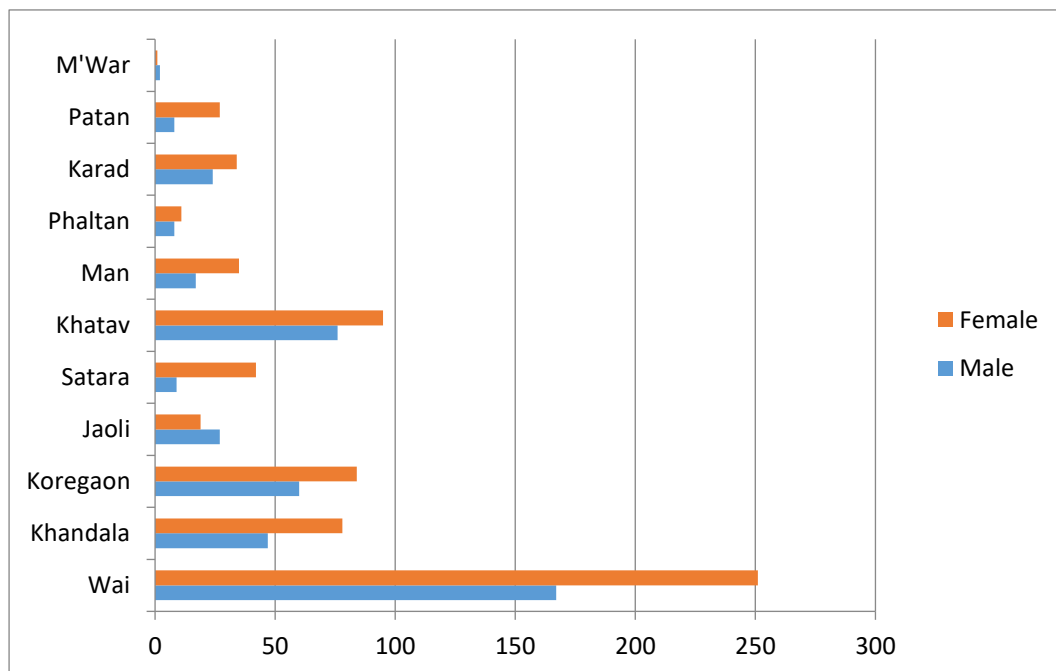
Sr. No.	Taluka	Sr. No.	Name of Jr. College
1	Wai	1	Kisan veer Jr. College, Wai
		2	Kanya Shala Jr. College , Wai
		3	Dish Jr. College, Wai
		4	K.B.P. Jr. College , Wai
2	Khandala	5	Rameshwar Jr. College, Wing
		6	Dnyansanwardhini Jr. College, Shirwal
		7	Rajendra Jr. College, Khandale
3	Koregaon	8	Bharatmata Jr. College, Wagholi
		9	M.K.Mane Jr. College, Deur
		10	Vasantdada Jr. College, Rahimatpur
4	Jaoli	11	Amdar Shashikant Shinde Jr. College, Medha
		12	Venna Jr. College, Medha
5	Satara	13	Bhavani Jr. College, Satara
		14	Maharaja Sayajirao jr. College, Satara
6	Khatav	15	Raja Bhagavantrao Jr. College, Aundh
		16	Shahajiraje Jr. College, Khatav
7	Man	17	Siddhanath Jr. College, Mhaswad
8	Phaltan	18	Y.C.Jr. College, Phaltan
9	Karad	19	SDU Jr. College, Undale
		20	SBS Jr. College, Karad
10	Patan	21	Balasaheb Desai Jr. College, Patan
11	M'War	22	AKI Jr. College, M'war

From these 22 Junior colleges and 11 talukas the no. of students are as follows.

Table No. 2 (Table showing Male and Female students from all Talukas)

Sr.No.	Taluka	Male	Female	Total
1	Wai	167	251	418
2	Khandala	47	78	125
3	Koregaon	60	84	144
4	Jaoli	27	19	46
5	Satara	9	42	51
6	Khatav	76	95	171
7	Man	17	35	52
8	Phaltan	8	11	19
9	Karad	24	34	58
10	Patan	8	27	35
11	M'War	2	1	3
Total		435	687	1122

Graph -1 (Graph showing no. of male and female students from all Talukas)

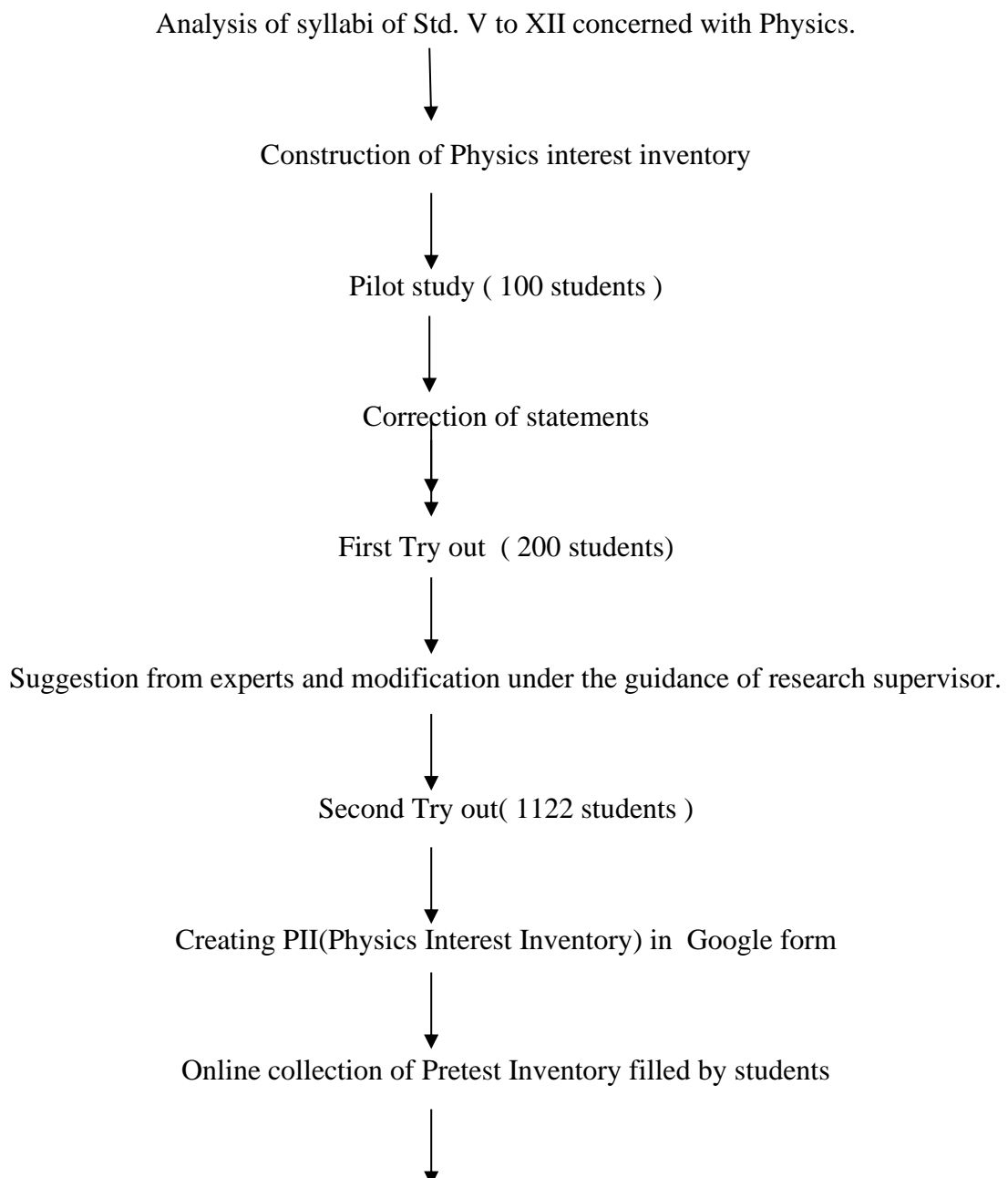


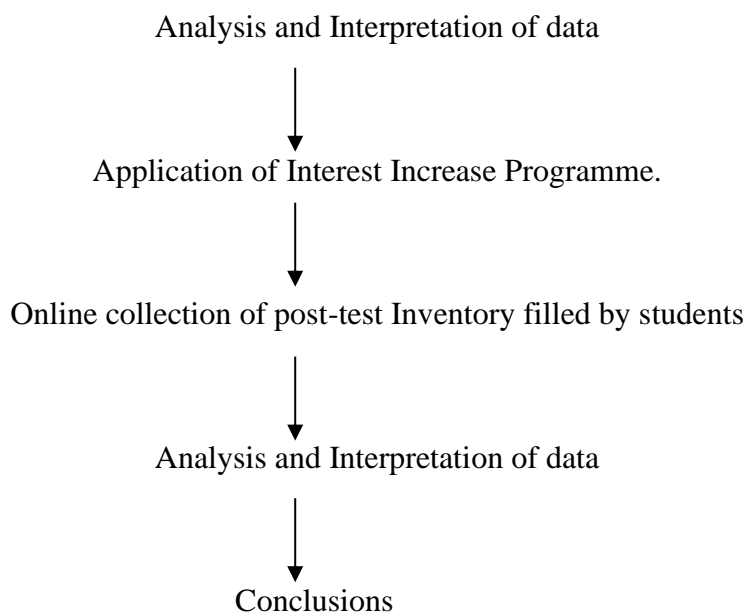
Out of these total 1122 students 835 students are from rural background and 287 students are from urban background .The number of male and female students is 435 and 677 respectively. From the students total 153 English medium, 643 Marathi medium , 325 Semi-English and 1 Urdu medium have their medium of study upto

10 th level. As per financial condition is concerned the annual income of parents is as below. Rs 0 – 1,00,000 , 946 students ,Rs 1,00,001 -2,50,000 , 106 students , Rs 2,50,001 – 8,00,000, 45 students and above Rs 8,00,000, 25 students. Also 494 students have their 10 th percentage 80 and below 80 % and 628students have their 10 th percentage above 80 %.

Data collection procedure:

For measuring the interest in Physics researcher adopted the following procedure.





As per above flow chart initially researcher studied all syllabus from std Vth to XIIth concerned with physics. Researcher himself is working in Kisan Veer Jr. college, Wai at +2 level as an assistant teacher in physics. Then he constructed Physics Interest Inventory (PII) containing 145 statements. The option for the statements are Like(L), Indifferent (I) and Dislike (D). Then he conducted pilot study of PII on 100 students. After discussion with experts & students researcher made some corrections. Then he conducted the first try out on 200 students from Shirval, Tal- Khandala & Wai, Tal- Wai of Satara district. He analysed the result and by taking opinion of students, teachers and experts he modified the interest inventory. Then he developed the Google form of it. Then from total Satara district he conducted the survey in 22 Junior colleges. Total 1122 students are participated. Then in analysis he allotted 1 mark for Like(L), 0 mark for Indifferent(I) and -1 mark for Dislike(D). After that he calculated the physics interest scores of all students by using Microsoft Excel. Then for analysis of data by using Microsoft Excel researcher compared the scores of all Male & Female students by considering following norms.

- i) Talukas of students
- ii) Financial condition of the parents.

After analysis of scores researcher user his interest increase programme for all students and then again he take the post test on all those students. Then he analyse the data of pretest and post-test.

Analysis of data:-

Researcher used average scores of students with above attributes. Also he prepared Graphs i.e. Pie diagram, Bar Graphs & Histograms.

Table No. 3

(Table showing No of Male and Female students with their parents income level from 11 Talukas)

Sr.No.	Taluka	Rs.0-1 L	Rs.1-2.5L	Rs.2,5-8L	Rs. 8 L & above	Total
1	Wai	357	35	10	16	418
2	Khandala	96	15	12	2	125
3	Koregaon	134	6	4	-	144
4	Jaoli	43	3	-	-	46
5	Satara	45	4	1	1	51
6	Khatav	144	23	2	2	171
7	Man	45	4	3	-	52
8	Phaltan	17	2	-	-	19
9	Karad	51	2	4	1	58
10	Patan	33	2	-	-	35
11	M'War	2	0	1	-	3
Total		967	96	37	22	1122

Graph - 2(Graph showing no. of students from all Talukas with their parent income)

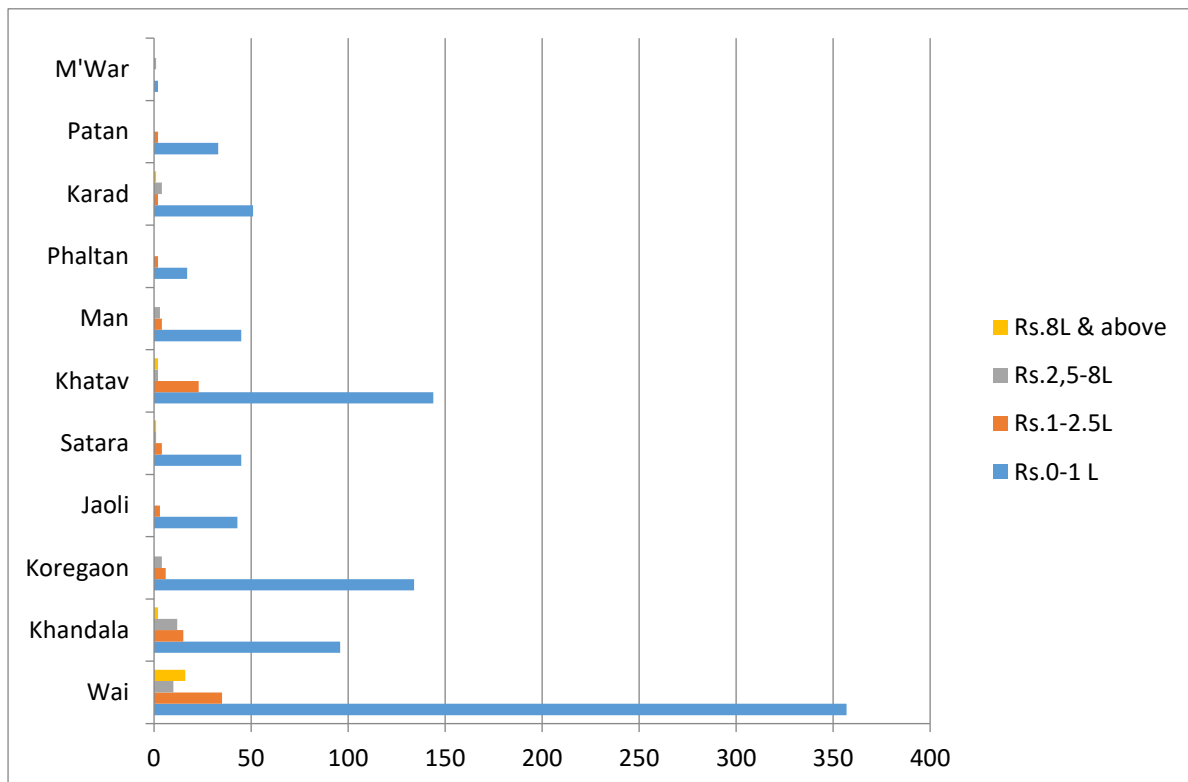


Table No. 4 (Table showing Average Pretest and posttest Scores and increase of students from all Talukas

Sr.No.	Taluka	Average score		Increase
		Pretest	Posttest	
1	Wai	50.96	68.46	17.5
2	Khandala	61.03	74.27	13.24
3	Koregaon	50.08	75.45	25.37
4	Jaoli	56.81	69.54	12.73
5	Satara	64.8	74.04	9.24
6	Khatav	59.74	69.86	10.12
7	Man	52.24	71.09	18.85
8	Phaltan	43.34	75.43	32.09
9	Karad	65.75	74.49	8.74
10	Patan	56.97	75.82	18.85
11	M'War	77.01	79.08	2.07
Total		55.06	71.32	16.26

Graph – 3 (Graph showing Average pretest scores of students from all)

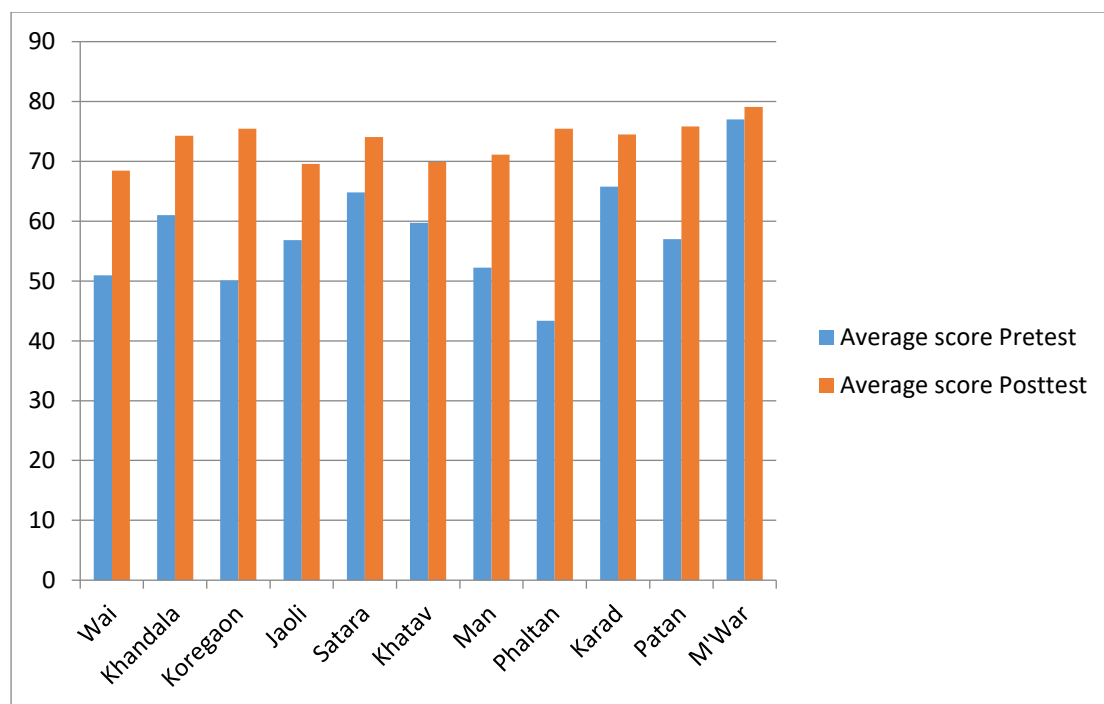


Table No. 5 (Table showing Average Pretest and posttest Scores and increase of Male and female students and increase from all Talukas

Sr.No.	Gender	Average score		Increase
		Pretest	Posttest	
1	Male	53.79	71.49	17.7
2	Female	55.87	71.23	15.36

Graph – 4 (Graph showing Average pretest and posttest scores of male and female students from all Talukas)

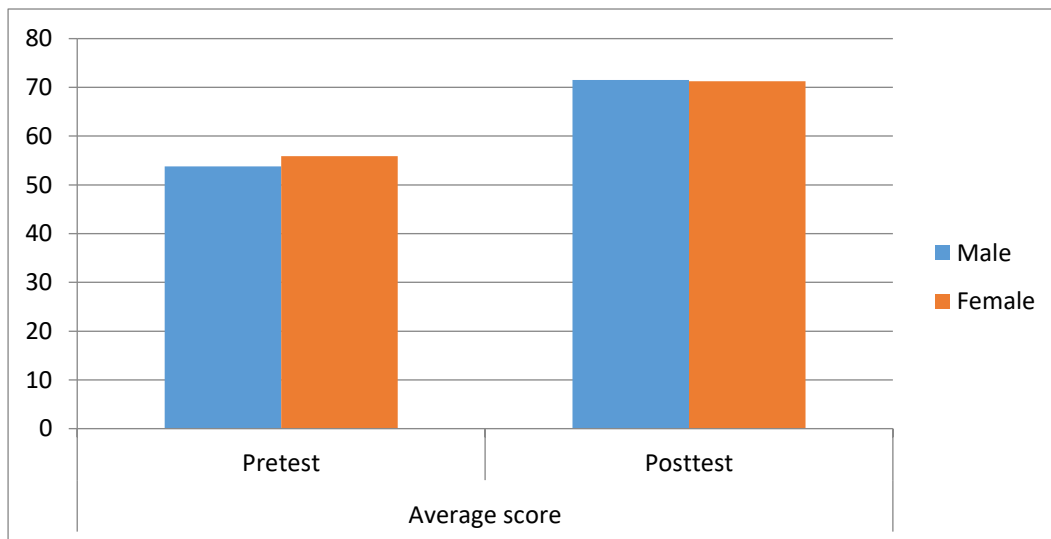


Table No. 6 (Table showing Average Pretest and posttest Scores with their parents income and increase from all Talukas

Sr.No.	Parents Annual Income	Average score		Increase
		Pretest	Posttest	
1	Rs. 0 – 1,00,000	54.9	71.55	16.65
2	Rs. 1.00.001 – 2,50,000	56.99	70.59	13.6
3	Rs. 2.50.001 – 8,00,000	51.75	65.6	13.85
4	Rs. 8.00.001 & Above	57.33	72.64	15.31

Graph – 5 (Graph showing Average pretest and posttest scores students from all Talukas with their parents income)

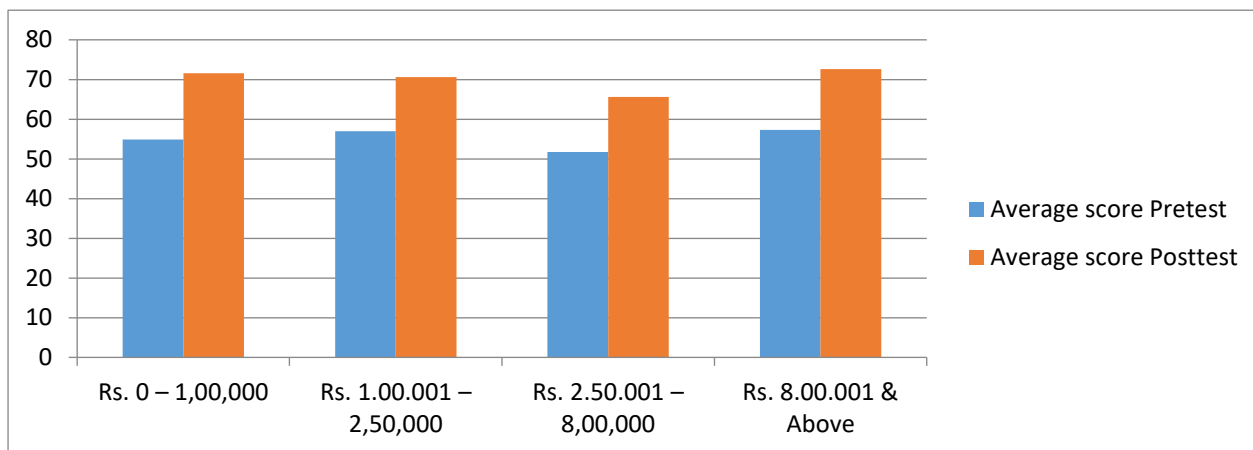
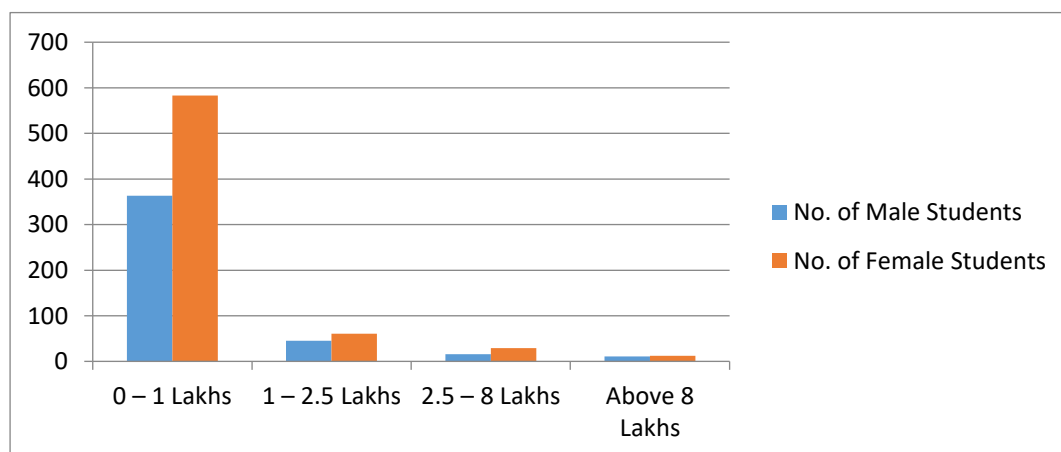


Table No. 7

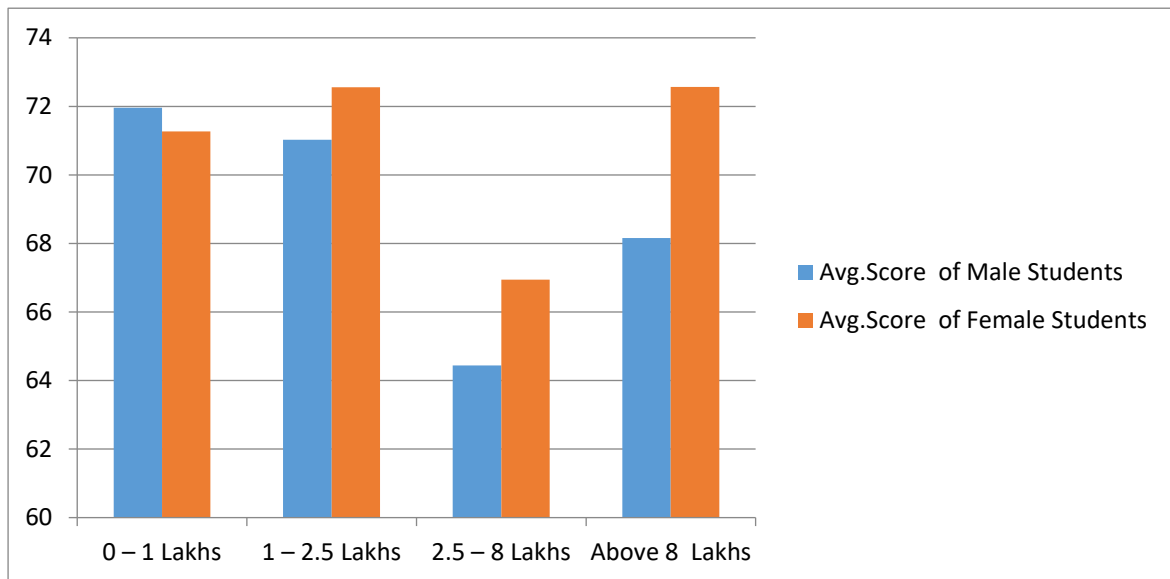
(Table showing No of Male and Female students & Avg. score of Interest in Physics for Male and Female Students as per their Parents Income in post test)

Sr.No.	Financial condition of Parents	No. of Male Students	No. of Female Students	Avg.Score of Male Students	Avg.Score of Female Students
1	0 – 1 Lakhs	363	583	71.96	71.27
2	1 – 2.5 Lakhs	45	61	71.03	72.56
3	2.5 – 8 Lakhs	16	29	64.44	66.94
4	Above 8 Lakhs	11	12	68.16	72.57
Total		435	687	71.49	71.23

Graph – 6 (Graph showing Average pretest and posttest scores of male and female students from all Talukas)



Graph – 7 (Graph showing Average posttest scores of male and female students from all Talukas with their parent income.)



Conclusions:

- The female students (Avg. 15.36) have less increase interest in Physics as compared to male students (Avg 17.7).
- The students whose parents income is in between 0-1 Lakh (16.65) have more increase in interest in physics.
- The students whose parents income is in between Rs. 1,00,001 – 2,50,000 (Avg. 13.6) have less increase in interest in physics.

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