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FREQUENCY DISTRIBUTION OF ATTITUDE SCORES OF HIGHER SECONDARY STUDENTS TOWARDSCOMPUTER BASED EDUCATION

PRIYANKA KUMARI
Research Scholar, Sai Nath University, Ranchi

Abstract
The computation of bound measures and the examination of the relationships that exist among information clusters are referred to as analysis. Critical analysis of the gathered data is done using discussion, tabular, and graphical tools. Tables and figures are used to display the results that are significant and those that are not. Because it offers solutions to problems related to education, statistical approaches have gained a special place in research. Mean, S.D., percentage, and standard error of difference between two means were calculated to investigate the relationship between the variables. The null hypotheses were tested at the 0.05 and 0.01 level of significance, and t-values or CR-values, F-tests, and product moment correlation methods were also computed.

RESULTS/ HYPOTHESES TESTING

The results of the present study are presented in tabular form as:

HYPOTHESIS NO. 1

H_1 The higher secondary pupils have a positive attitude about education using computers.
Minimum attitude toward computer-based education score, maximum attitude toward computer-based education score, and mean score were computed for testing the aforementioned hypothesis, and the results are displayed in the table below.

TABLE 4.1(A) FREQUENCY DISTRIBUTION OF ATTITUDE SCORES OF HIGHER SECONDARY STUDENTS TOWARDSCOMPUTER BASED EDUCATION

Sr. No.	Percentage of A.T.C.B.E Score	Categories	Frequency	% of the Students
1	81 % to above	Extremely High	75	9.37%
2	66 % to 80 %	High	400	50.0%
3	55 % to 65 %	Above Average	270	33.75%
4	49 % to 54 %	Average	34	4.25%
5	38 % to 48 %	Below Average	21	2.65%
6	30 % to 37 %	Low	0	0 %
7	29 % to below	Extremely Low	0	0 %
Total			800	100 %

TABLE 4.1(B) HIGHER SECONDARY STUDENT'S ATTITUDE TOWARDS COMPUTER BASED EDUCATION

	N	Minimum	Maximum	Mean	Category
Total attitude	800	42.41 %	94.72 %	70.74%	High

According to table 4.1(a) above, 9.37 percent of students received scores of 81 percent or higher, 50 percent received scores between 66 and 80 percent, 34.25 percent received scores between 55 and 65 percent, 4.5 percent received scores between 49 and 54 percent, and 2.65 percent received scores between 38 and 48 percent. According to standards, pupils are regarded to have an averagely positive attitude toward computer-based education if they scored over 49 percent.

The table makes it abundantly evident that 98.5 percent of respondents scored higher than 48 percent. Just 2.65 % of pupils received scores between 38 and 48, which is below average. According to table 4.1(b), the higher secondary students' overall attitude toward computer-based education is quite favorable, with a mean score of 70.74 percent. Additionally, it should be mentioned that every kid displayed a very positive attitude toward education that is computer-based. Thus, the first hypothesis is adopted.

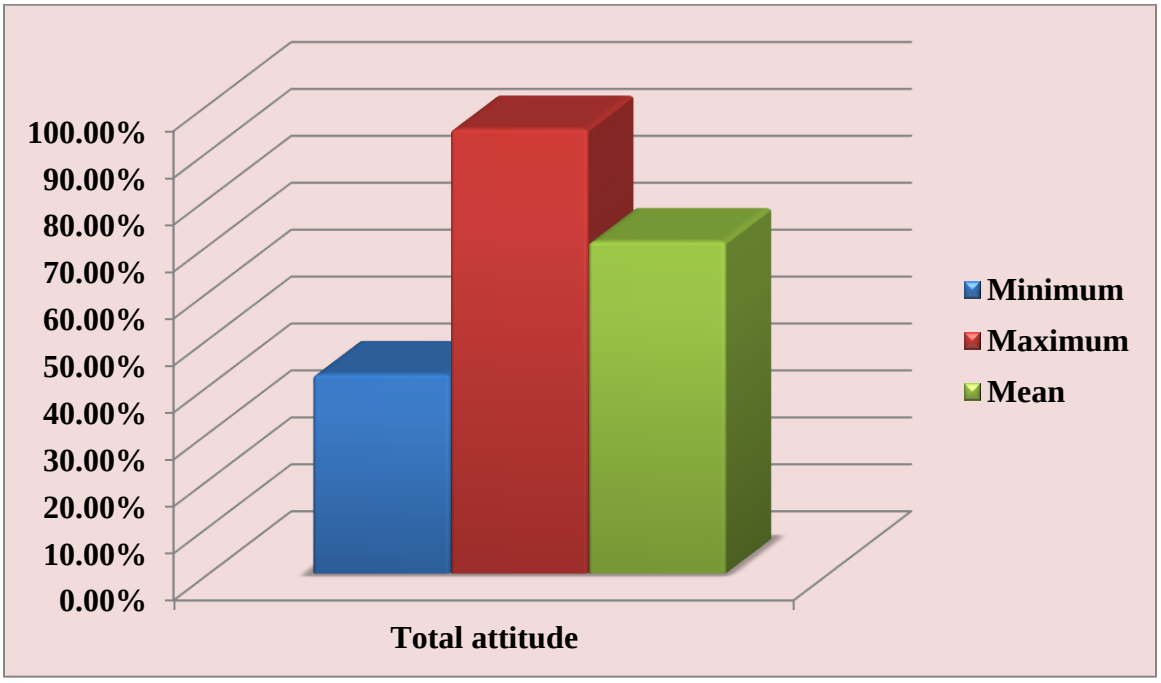

FIGURE-4.1: HIGHER SECONDARY STUDENT'S ATTITUDE TOWARDS COMPUTER BASED EDUCATION

HYPOTHESIS NO. 2

H0 2 Gender has no discernible influence on how high school pupils feel about computer-based education. The entire sample was split into two groups—males and females—in order to test the

aforementioned hypothesis. T-tests were performed to determine the gender's major influence on pupils in higher secondary school's attitudes on computer-based education.

TABLE 4.2: T- TEST FOR SHOWING THE SIGNIFICANT EFFECT OF GENDER ON A.T.C.B.E OF HIGHER SECONDARYSTUDENTS

Gender	N	Mean	S.D.	$S.E_D$	t-value	Table value	Significance
Male	410	192.33	25.42	1.81	2.03	t.05=1.94 t.01=2.58	*Significant
Female	390	190.64	21.73				

Significant at 0.05 level of confidence

There are 410 male higher secondary pupils overall, according to Table 4.2. Male higher secondary students' mean and standard deviation are 192.33 and 25.42, respectively. Additionally, it reveals that there are 390 female higher secondary pupils overall. Female higher secondary students' mean and standard deviation are 190.64 and 21.73 respectively. The calculated t value for higher secondary pupils in both genders is 2.03 at the df = 798 level. However, the table value at level 0.05 is 1.94, and at level 0.01 at df = 798, it is 2.58.

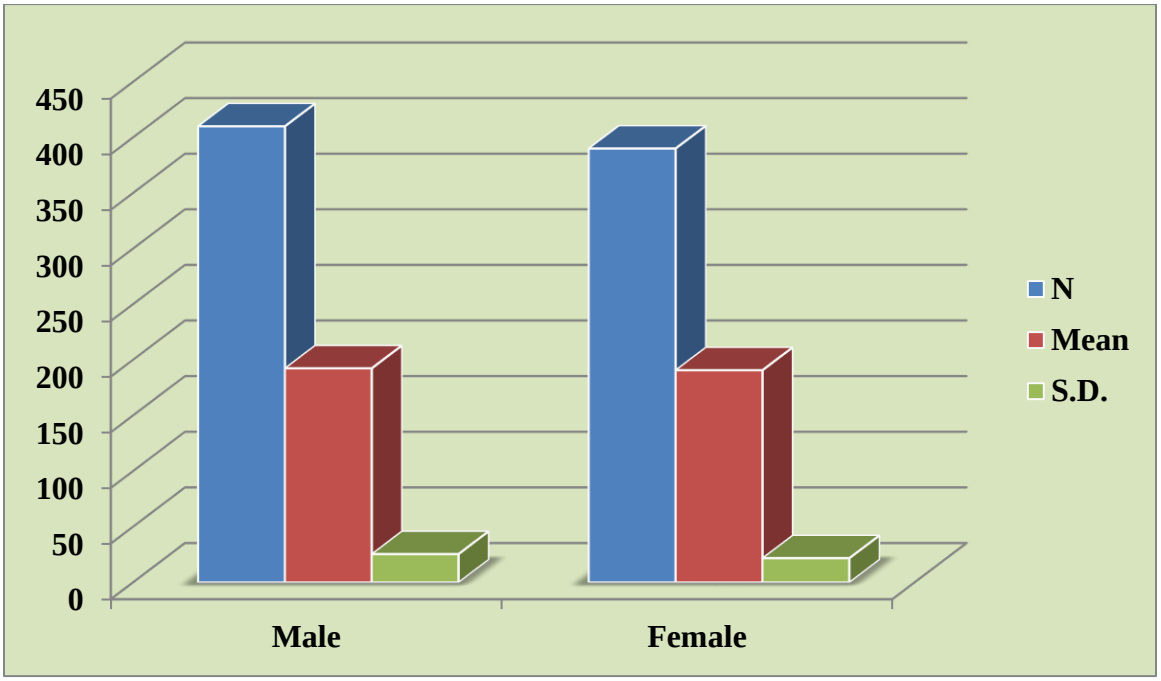

FIGURE 4.2: T- TEST FOR SHOWING THE SIGNIFICANT EFFECT OF GENDER ON A.T.C.B.E OF HIGHER SECONDARY STUDENTS

As a result, at the level of 0.05, the estimated value of t is higher than the table value (2.03>1.96). Thus, it is evident that there are major differences between upper secondary students of both sexes in terms of the A.T.C.B.E. Therefore, hypothesis no. 2 is disproved. Male higher secondary students have a more positive attitude toward computer-based education than female higher secondary students because the mean attitude of male higher secondary students is higher than that of female higher secondary students.

It is evident that male upper secondary students are more accepting of computer-based learning than female higher secondary students.

HYPOTHESIS NO. 3

H0 3 Students in higher secondary science and arts streams do not significantly differ in their attitudes about computer-based education.

The entire sample was split into two categories—science and the arts—in order to evaluate the aforementioned hypothesis. T-tests were performed to determine whether there was a significant difference in the attitudes of students in higher secondary science and arts streams toward computer-based education.

TABLE 4.3 T- TEST FOR SHOWING THE SIGNIFICANT DIFFERENCE IN THE A.T.C.B.E OF SCIENCE AND ARTSSTREAM HIGHER SECONDARY STUDENTS

Stream	N	Mean	S.D.	$S.E_D$	t-value	Table value	Significance
Science	409	202.05	24.14	1.74	8.74	t.05=1.94 t.01=2.56	*Significant
Arts	391	182.76	24.96				

Significant at 0.01 level of confidence

There are 409 higher secondary students studying science overall, according to Table 4.3. Average and Male pupils in higher secondary schools have S.D.s of 202.05 and 24.14, respectively. Additionally, it reveals that 391 higher secondary students are majoring in the arts. The higher secondary pupils' mean and standard deviation are 182.76 and 24.96, respectively. Higher secondary pupils in the arts and sciences have a t value of 8.74 at the df = 798. However, the table value at level 0.05 is 1.94, and at level 0.01 at df = 798, it is 2.56.

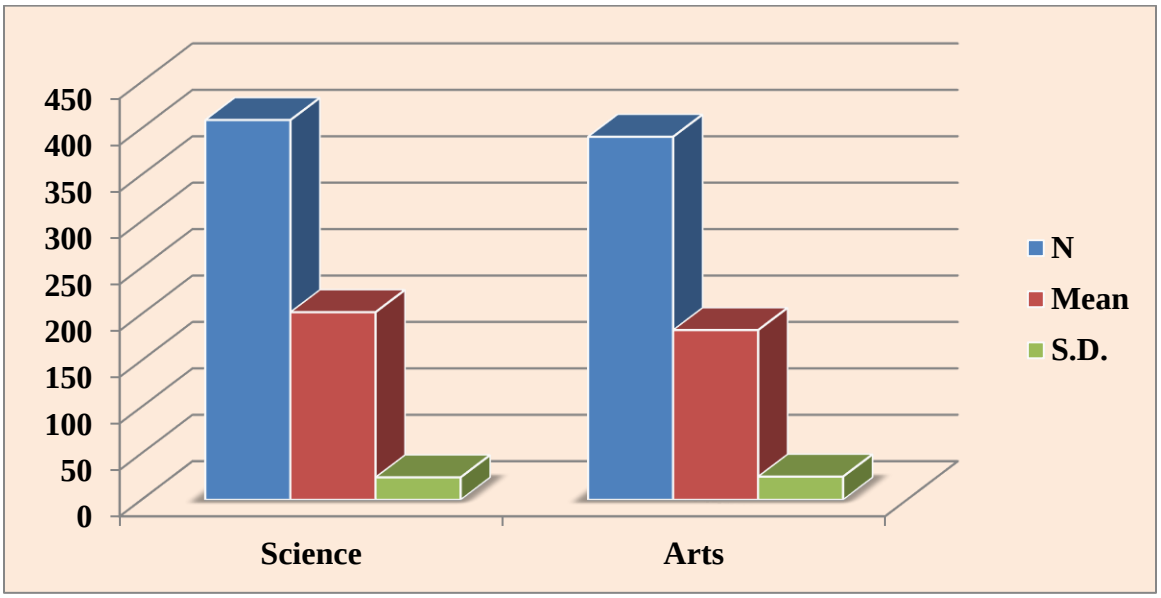

FIGURE-4.3: T- TEST FOR SHOWING THE SIGNIFICANT DIFFERENCE IN THE A.T.C.B.E OF SCIENCE AND ARTS STREAM HIGHER SECONDARY STUDENTS

As a result, at the level of 0.01 the estimated value of t is more than the table value (8.76>2.56). Thus, it is evident that there are considerable differences between higher secondary students in Science and Arts in terms of their attitudes about computer-based learning. Therefore, hypothesis no. 3 is disproved. Science higher secondary students have a more positive attitude toward computer-based education than Arts higher secondary students because Science higher secondary students' average attitude toward computer-based education is higher than that of Arts higher secondary students.

It can be said that higher secondary students in the sciences have a more positive attitude toward computer-based education than higher secondary students in the arts.

HYPOTHESIS NO. 4

$H0_4$ With regard to the different sorts of schools that higher secondary students attend, there is no discernible variation in how they feel about computer-based education.

The entire sample was split into three groups, namely private, government, and aided schools, in order to test the aforementioned hypothesis. The f-test was used to determine the significant difference between higher secondary students' attitudes regarding computer-based education and their types of schools.

ANOVA (F-TEST) SUMMARY FOR A.T.C.B.E

Types of school	N	Mean	S.D.
Private	268	191.10	24.60
Government	267	194.71	22.45
Aided	265	193.74	24.03

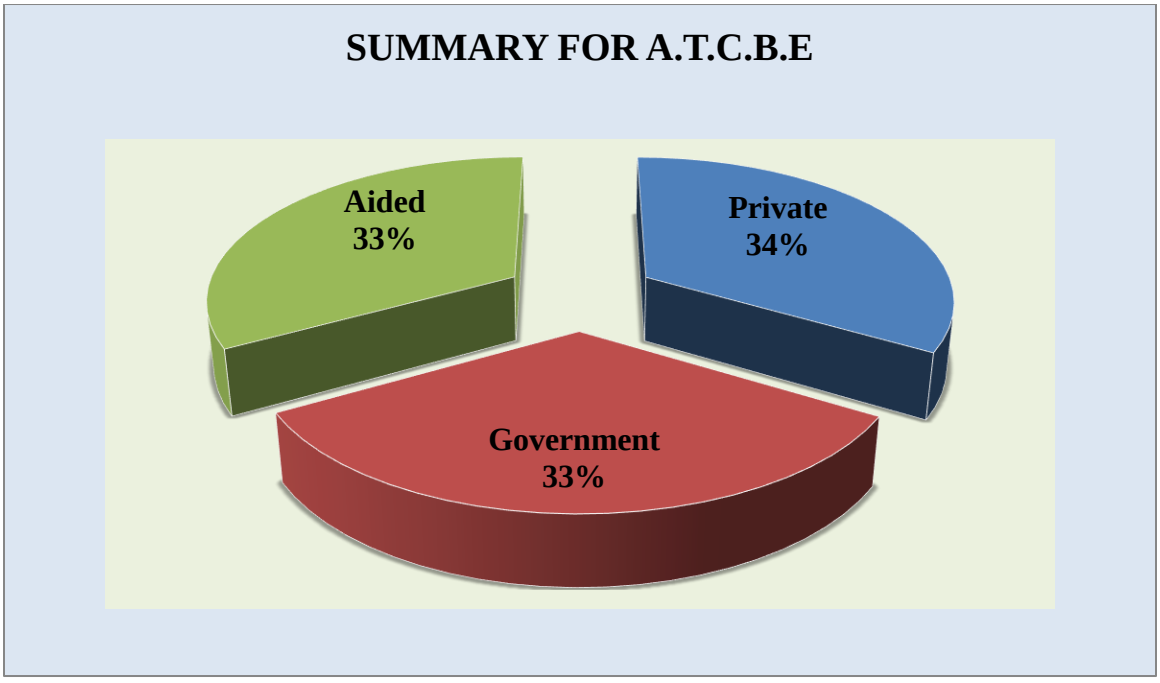

FIGURE-4.4: ANOVA (F-TEST) SUMMARY FOR A.T.C.B.E

TABLE 4.4(B): ANOVA (F-TEST) FOR SIGNIFICANT DIFFERENCE IN A.T.C.B.E OF TYPES OF SCHOOL OF HIGHERSECONDARY STUDENTS

Source of variation	df	SS	MS	F-value	Table value	Significance
Between group	2	272.44	133.75	0.24	F.05 = 3.00 F.01 = 4.64	**Not Significant
Within group	797	528684.06	665.36			
Total	799	528955.53	664.04			

Not Significant at 0.05 level of confidence

The number of higher secondary pupils in private, government, and aided schools is 268, 267, and 265 accordingly, according to table 4.4(a) above. Additionally, it reveals that the average higher secondary student across all private, public, and aided schools is 191.10, 194.71, and 24.03. And S.D. is 24.60, 22.45, and 24.03, respectively, and table 4.4.(b) demonstrates that the calculated f value for higher secondary students attending private, government, and aided schools is 0.20, which is lower than the table value of 3.00 at level 0.05 with df = (2,797). Therefore, at the level of 0.05 and with df = 1, the calculated value of f is less than the table value (0.20 3.0). (2,797). Therefore, it is evident that there are no appreciable differences in pupils in higher secondary schools' attitudes regarding computer-based education. Thus, hypothesis number four is accepted. Additionally, it should be mentioned that higher secondary students from private, public, and aided schools all have favorable attitudes about computer-based learning.

HYPOTHESIS NO. 5

$H0_5$ Gender has little to no impact on higher secondary students' inventiveness.

The entire sample was split into two groups—males and females—in order to test the aforementioned hypothesis. The t-Test was utilized to determine the gender's major influence on higher secondary pupils' inventiveness.

TABLE 4.5: T- TEST FOR SHOWING THE SIGNIFICANT EFFECT OF GENDER ON CREATIVITY OF HIGHER SECONDARYSTUDENTS

Gender	N	Mean	S.D.	$S.E_D$	t-value	Table value	Significance
Male	410	62.91	15.25	1.31	7.00	t.05=1.94 t.01=2.56	*Significant
Female	390	74.22	20.23				

Significant at 0.01 level of confidence

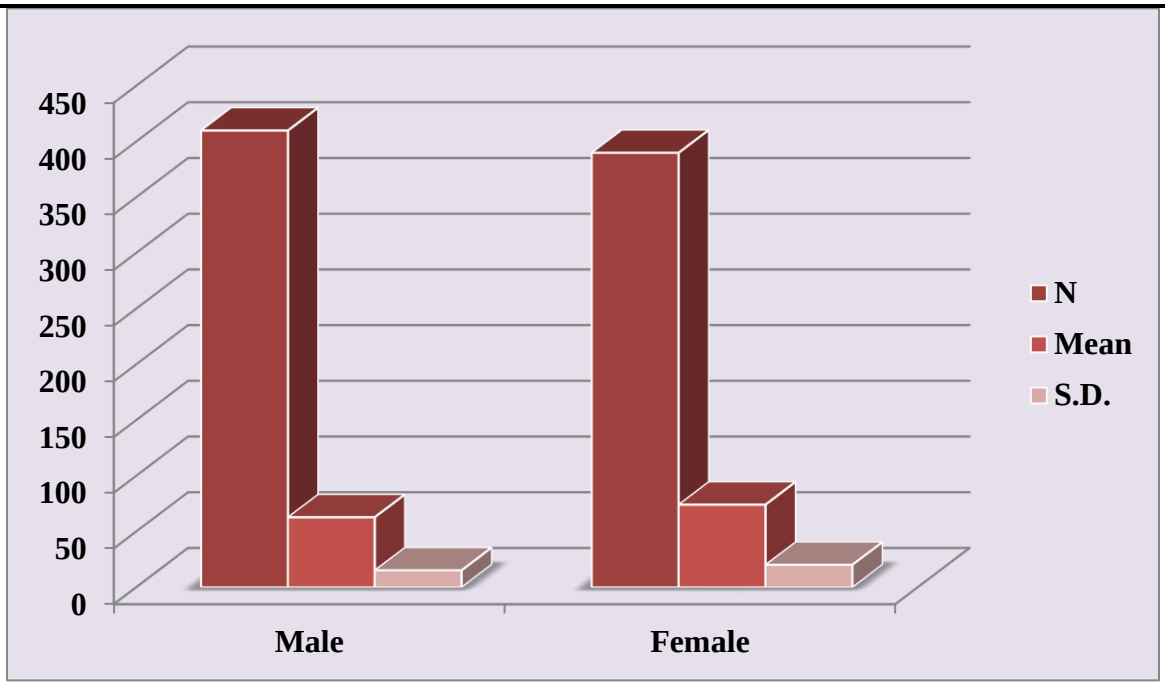

FIGURE: 4.5: T- TEST FOR SHOWING THE SIGNIFICANT EFFECT OF GENDER ON CREATIVITY OF HIGHER SECONDARY STUDENTS

It is evident from table 4.5 that the higher secondary students't values for originality came out to be 7.0 for both male and female students. This, with df = 798, is significant at the 0.01 level since the estimated t value (7.0 > 2.58) is higher than the table value As a result, the null hypothesis is disproved. It might be concluded that there is a sizable difference in originality between male and female higher secondary pupils. Additionally, it is evident from the chart that the median intentions of female upper secondary students (74.22) are more creative than those of male higher secondary students (62.91). Additionally, it should be mentioned that male and female students in higher secondary education greatly outperformed one another in terms of originality.

HYPOTHESIS NO. 6

$H0_6$ Students in higher secondary science and arts streams do not significantly differ in terms of inventiveness.

The entire sample was split into two categories—science and the arts—in order to evaluate the aforementioned hypothesis. The t-test was used to determine that there was no discernible difference between the creativity of higher secondary pupils in the scientific and arts streams.

TABLE 4.6: T- TEST FOR SHOWING THE SIGNIFICANT DIFFERENCE IN THE CREATIVITY OF SCIENCE AND ARTSSTREAM STUDENTS OF HIGHER SECONDARY

Stream	N	Mean	S.D.	$S.E_D$	t-value	Table value	Significance
Science	409	72.60	16.82	1.34	3.01	t.05=1.94 t.01=2.56	*Significant
Arts	391	67.44	17.71				

Significant at 0.01 level of confidence

Table 4.6 makes it evident that the t value for originality among higher secondary students in the arts and sciences is 3.03, which is significant at the 0.01 level of significance with df = 798. The estimated t value (3.03 > 2.58) is higher than the number in the table. As a result, the null hypothesis is disproved. It might be concluded that there is a sizable gap in originality between higher secondary pupils in the science and arts streams. The data also shows that the mean values of higher secondary pupils in the Science stream (72.60) are more inclined toward creativity than those in the Arts stream (67.44).

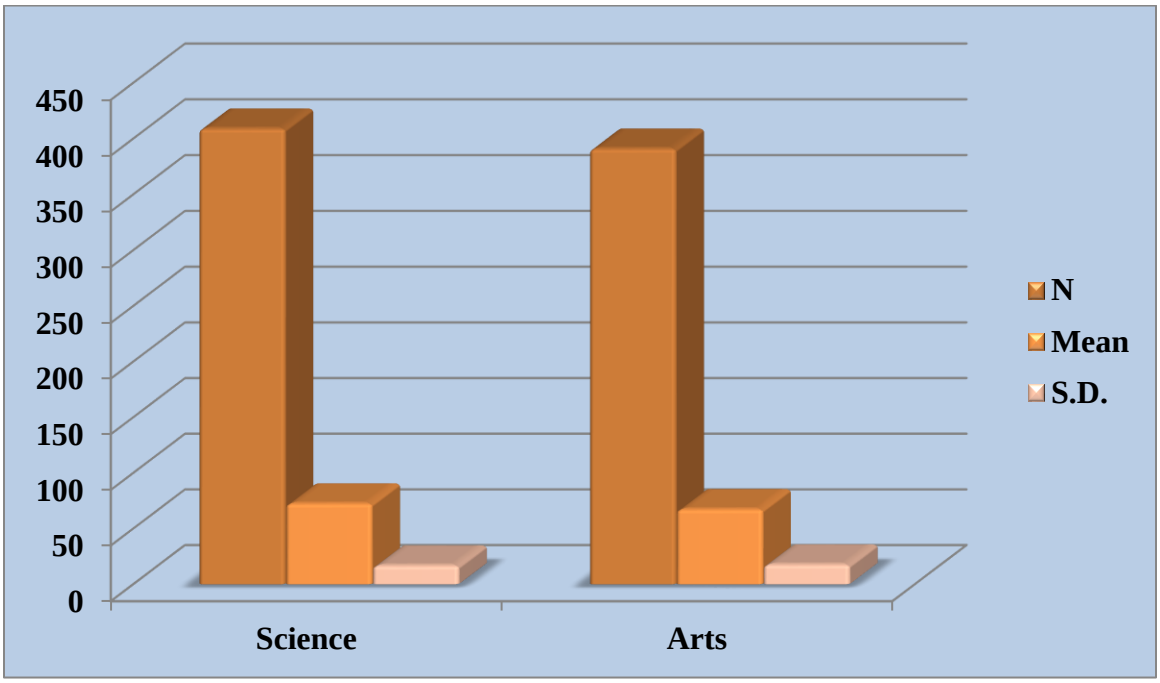

FIGURE- 4.6: T- TEST FOR SHOWING THE SIGNIFICANT DIFFERENCE IN THE CREATIVITY OF SCIENCE AND ARTS STREAM STUDENTS OF HIGHER SECONDARY

Additionally, it should be highlighted that higher secondary students in the science stream greatly outperformed those in the arts stream in terms of originality.

HYPOTHESIS NO. 7

$H0_7$ The inventiveness of various higher secondary school types does not significantly differ from one another.

The entire sample was split into three groups, namely private, government, and assisted schools, in order to test the aforementioned hypothesis. The f-test was used to see whether there was a significant difference between higher secondary schools in terms of inventiveness.

TABLE 4.7(A) ANOVA (F-TEST) SUMMARY FOR CREATIVITY

Types of school	N	Mean	S.D.
Private	268	73.26	22.78
Government	267	67	15.48
Aided	265	70.43	17.23

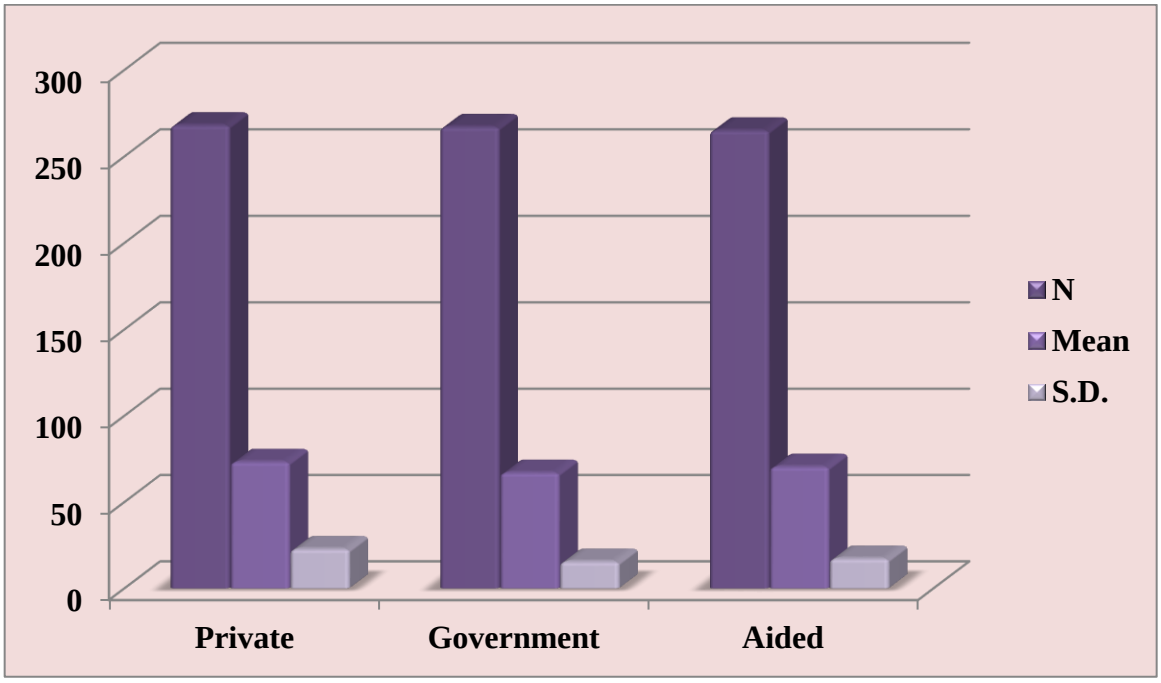

FIGURE- 4.7: ANOVA (F-TEST) SUMMARY FOR CREATIVITY

TABLE 4.7(B): ANOVA (F-TEST) FOR SIGNIFICANT DIFFERENCE IN THE CREATIVITY OF TYPES OF SCHOOL OF HIGHERSECONDARY

Source of variation	df	SS	MS	F-value	Table value	Significance
Between group	2	5815.16	2905.57	7.84	F.05 = 3.00 F.01 = 4.61	*Significant
Within group	797	294676.63	367.71			
Total	799	300491.77	374.07			

Significant at 0.01 level of confidence

TABLE 4.7(C) T- TEST FOR SHOWING THE SIGNIFICANT DIFFERENCE IN THE CREATIVITY OF TYPES OF SCHOOL OFHIGHER SECONDARY

S.N	Type of School	N	Mean (M)	df	$S.E_D$	t- value	Table value	Significance
1	Private	268	73.26	533	1.64	3.76	t.05=1.94 t.01=2.56	Significant at 0.01
2	Govt.	267	67					
3	Private	268	73.26	531	1.76	2.83	t.05=1.94 t.01=2.56	Significant at 0.01
4	Aided	265	70.43					
5	Govt.	267	67	530	1.57	0.87	t.05=1.94 t.01=2.56	Not Significant
6	Aided	265	70.43					

The number of higher secondary pupils in private, government, and aided schools is 268, 267, and 265 accordingly, according to table 4.7(a) above. It also reveals that the mean scores for higher secondary pupils attending private, public, and aided schools are 73.26, 67, and 70.43 respectively. Additionally, the S.D. is 22.78, 15.48, and 17.23, respectively.

Higher secondary pupils in private, government-sponsored, and aided schools had a calculated f value of 7.84, which is higher than the table value of 4.62 at the level 0.01 with df = (2,797). Therefore, at the level of 0.01 with df =, the estimated value of f is more than the table value (7.84 > 4.62). (2,797).

Thus, it is evident that the inventiveness of kids in higher secondary schools varies significantly. Therefore, hypothesis no. 11 is disproved.

To discover the significant difference between two means after a significant ANOVA, the t test must be used. The estimated t value for private and public schools is 3.78, which is higher than the table value (3.78>2.58) at the 0.01 level of significance, as can be seen from table 4.7(c). At a significance level of 0.05, the estimated t value for private and aided schools is 2.81, which is higher than the table value (2.81 > 2.58). Thus, it is obvious that there are important differences between pupils in higher secondary schools who are private, government, private, and receiving financial aid. Because the mean of private upper secondary school students is higher than that of government and aided higher secondary school students, private higher secondary school students are more creative than their public and aided counterparts. The estimated t value for government and aided schools is 0.89, which is less than the table value (0.891.96) at the 0.05 level of significance with df = 530, as shown in table 4.7(c). Therefore, there is little to no creative difference between pupils from public and assisted higher secondary schools.

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