

COMPARATIVE ANALYSIS OF STUDENT ENGAGEMENT AMONG SENIOR SECONDARY SCHOOL STUDENTS WITH RESPECT TO SELECTED DEMOGRAPHIC VARIABLES

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Abstract

Student engagement corresponds to the purposeful commitment by the students in teaching-learning process. In other words, Student engagement pertains to the degree to which learners engaged themselves in formal education process for learning and refers to commitment of time, energy, and efforts by students regarding their learning tasks which include activities related to learning. There are three dimensions of student engagement i.e. emotional engagement, behavioral engagement and cognitive engagement. The main motive of this study was to compare the types of student engagement among senior secondary school students with respect to the selected demographic variables i.e. gender, type of school and stream of study. The sample was taken from three districts of Punjab i.e. Amritsar, Ludhiana and Jalandhar corresponding to Majha, Malwa and Doaba regions of Punjab respectively. The sample size taken for this study was 449 senior secondary school students from meritorious, government and private schools from each district. The results revealed that male students have high student engagement in all the dimensions than females. There was no significant difference among students of meritorious, government and private schools in behavioral engagement. But students of meritorious schools have more emotional engagement in comparison to students of government and private school and students of meritorious school were more cognitively engaged in comparison to students of government and private school. When it comes of stream of study, there was no significant difference in terms of emotional engagement and cognitive engagement. But in case of behavioral engagement, it was found that the students belong to arts stream have more behavioral engagement than commerce and science stream.

Keywords : Engagement, Emotional Engagement, Cognitive Engagement, Behavioral Engagement, Senior Secondary School Students

INTRODUCTION

In order to understand the behavior of students towards their teaching-learning process student engagement construct plays an important role. It also gives us information about the instructional as well as educational operations are practiced in the institutions. Student engagement corresponds to the purposeful commitment by the students in teaching-learning process. The word student engagement has emerged from preferred learners' characteristics i.e. their involvement in designing curricular material and their engagement in other activities related to school climate. It can also be known as the interrelation between learner and teacher, school and learner, teachers, peers and between students and instructional material (Martin and Torres, 2017). When the teachers have to develop lesson plans with best pedagogies to be used in the classroom which will enhance the participation of learners and give them plenty of experiences, student engagement serves a dominant means to achieve this. Student engagement also refers to involvement number of activities besides scholastic activities i.e. engagement in extracurricular activities. According to Chapman student engagement refers to readiness of students to participate in various activities which include attending classes, completing their homework regularly and following the instructions given by the teachers (Chapman, 2003). When the students are positively engaged in learning process and possess high motivation, this will results in enhancing their success in education and decrease in dropout rates (Reyes et al., 2012; Martin and Peter. 2009; Olufunmilayo, 2010).

Dimensions of Student Engagement construct: There are three dimensions included in this construct i.e. behavioral engagement, emotional engagement and cognitive engagement.

1. Behavioral Engagement:

It refers to the involvement of student in various curricular, co-curricular and societal activities of school (Fredricks *et al.*, 2004). Behavioral engagement is one of the dimensions of student engagement which gives us information that whether the student is completely engaged in various activities in school along with curriculum or not. It also indicates the behavior of students with respect to learning which include concentration, putting efforts, taking an initiative role, obeying the regulations, and interaction with peers as well as teachers (Hattie & Anderman, 2013).

2. Emotional Engagement:

According to Fredricks *et al.*, (2004), affective part of engagement of students refers to identification about school which means their feeling, valuing and belongingness towards importance to school along with appraisal of progress in results related to school (Christenson *et al.*, 2012). When it comes to definition, the focal point of student engagement is the degree either positive or negative to which students responds towards teachers, peers or classmates, curriculum and school.

3. Cognitive Engagement:

This aspect of engagement refers to the involvement of student in the process of learning (Fredricks *et al.*, 2004). “A cognitively engaged student is a student who is thoughtful, strategic, and willing to exert the necessary effort for comprehension of complex ideas or mastery of difficult skills” (Christenson *et al.*, 2012).

REVIEW OF LITERATURE

Adediwura *et al.* (2008) compared the students of public and private school in student engagement and school effectiveness. The sample size consisted of 180 senior secondary school students from public and private schools 90 students from each school. They identified the perception of students regarding student engagement i.e. connectivity towards school, peers, teachers, desire and motivation to learn. The results revealed that there was no significant difference between government and private schools in terms of connectivity towards peers. On the other hand, public school student’s connection to teachers, desire and motivation to learn was significantly different from the students of private schools.

Shaun *et al.* (2004) conducted a study to find out the difference in men and women in terms of student engagement. The sample includes African American undergraduate students. The sample size consists of 1,167 students from 12 universities out of which 9 were public and 3 were private. The National Survey of Student Engagement (NSSE) was used to collect data from students. The result revealed that there is no significant difference among men and women with respect to student engagement. Therefore, it was clear that women equally enjoy the engaging behavior as men.

Ruslin *et al.* (2014) conducted a cross-sectional study to explore the level of student engagement of students on the basis of age and gender. The sample was taken from students of schools of Malaysia who were 12, 14 and 16 years old. They used Students’ Engagement Inventory by Lam Shui Fong collect data from students. The result revealed that there is significant difference in level of engagement with respect to age and gender. It was found that female students were known to possess high level of student engagement in comparison with males. When it comes to age, younger students possess high level of student engagement than elder learners. Therefore, the student of different age and gender perceived the school environment differently.

Sofie L. *et al.* (2015) studied the “gender gap in student engagement and the role of teachers’ autonomy, support, structure and involvement”. The sample size consisted of 325 students belong to 7th grade and 15 language teachers. The report of students, teachers and observer was used as a measuring

tool of student engagement. They tested the mediator role of teachers' support on the gender difference in terms of student engagement. The results revealed that students experienced a significant of support from teachers in order to engage in activities. Moreover, boys experienced less support from teachers than girls which leads to their low level of student engagement than females.

Martin & Bolliger (2018) studied the perception of students regarding strategies used for engagement in online learning environment. Survey method was used to find out the opinion about various engagement strategies from students on the basis of Moore's interaction framework. The sample size consists of 150 students who responded to student to student, student to teacher and student to content engagement strategies. The result revealed that as per perception of students through discussion and collaborative strategies learner to learner engagement can be enhanced. However, by sending emails, reminders, announcements and rubrics for assessing the assignment on a regular basis proved to be beneficial for learner to instructor category. Students also mentioned that by working on real world projects, learner to content engagement category can be improved.

OBJECTIVES OF THE STUDY

To compare the student engagement among senior secondary school students with respect to selected demographic variables.

RESEARCH METHOD

Method is a way or logical way of solving a problem. Research method refers to set of procedures or principles which can be used by investigator to conduct a particular study. The present study is descriptive in nature; therefore descriptive survey method was used. Researcher used convenience sampling in order to get responses and data from senior secondary school students. Data collection was done from three districts of Punjab i.e. Amritsar, Ludhiana and Jalandhar belong to Majha, Malwa and Doaba respectively. Total sample size was 449 students from senior secondary schools. Three schools were selected from each districts i.e. Meritorious, Government and Private.

TOOL FOR DATA COLLECTION

Tools are the ways which are used by researcher to collect data pertaining to study. They are used to gather information which will be used to make analysis and interpret about data collected by researcher. In this study, Student Engagement Scale (SES) developed by Dr. Ugur Dogan, (2014) was used to collect data. This scale consists of three dimensions i.e. emotional engagement, cognitive engagement and behavioral engagement. As per norms the students who scored more than 50% have high student engagement and those who scored less than 50% possess low student engagement.

ANALYSIS AND INTERPRETATION

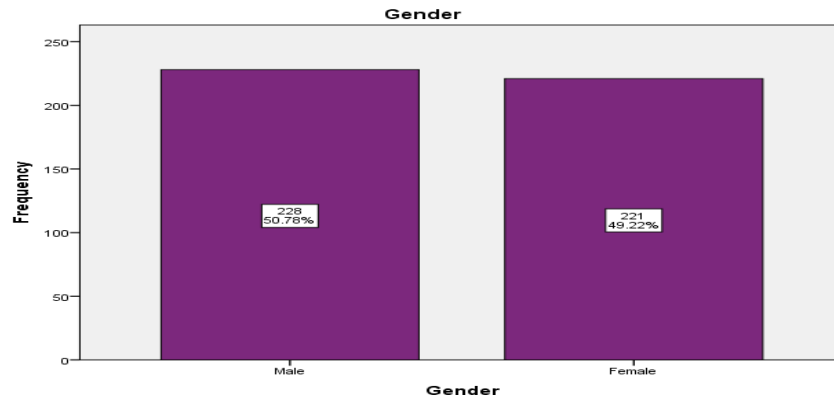
Data analysis is the most important part of research. After collection, the data was analyzed by using descriptive statistics. The data analysis, results and interpretation of findings has been presented as follows:

1.1 Demographic characteristics of sample:

Table 1.1: Percentage of students of senior secondary schools on the basis of gender

Gender	Frequency	Percentage (%)
Male	228	50.8
Female	221	49.2
Total	449	100

Figure 1.1: Percentage of students of senior secondary schools on the basis of gender

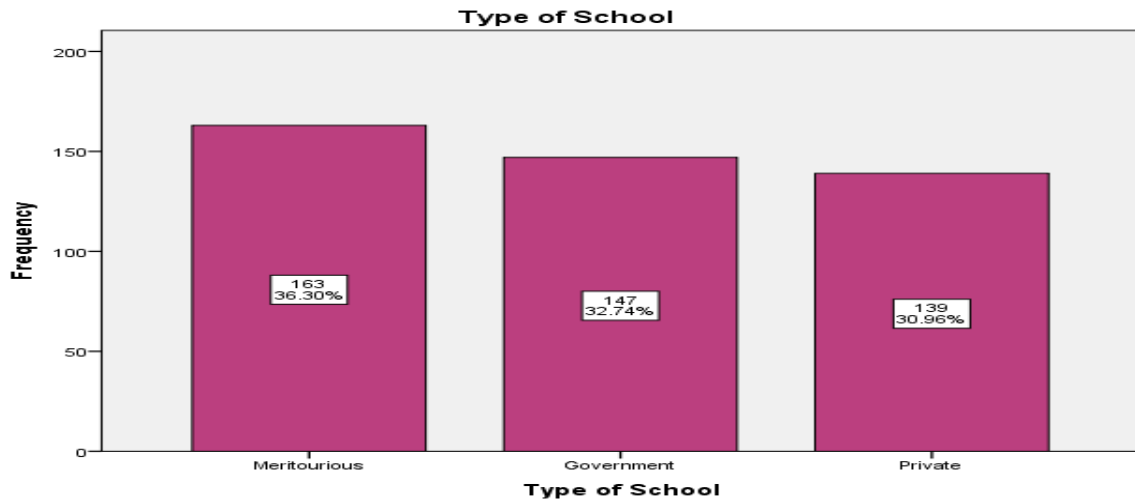


The table is showing the number of males and females from whom data was collected. It can be seen from the table that total number of subjects were 449, out of which 228 were females corresponding to 50.8% and 221 were males equal to 49.2%. So it is also clear from graph that males and females selected for data collection were approximately equal.

Table 1.2: Percentage of students of senior secondary schools on the basis of type of school

Type of School	Frequency	Percentage (%)
Meritorious	163	36.3
Government	147	32.7
Private	139	31
Total	449	100

Figure 1.2: Percentage of students of senior secondary schools on the basis of type of school



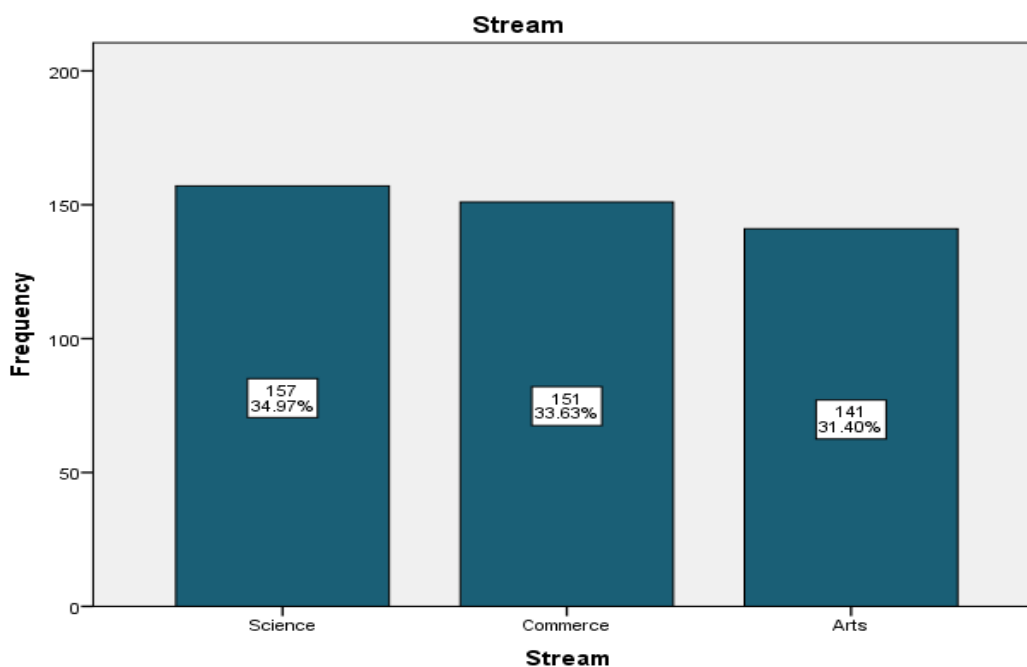
The table and graph are showing the number of subjects selected form different types of schools i.e., meritorious, private and government. It can be clearly seen form table and graph that out of 449, 163 students were taken from meritorious school, 147 students from government school and 139 students

from private school which corresponds to 36.3%, 32.7% and 31% respectively. That means equal percentage of students were taken from all types of schools.

Table 1.3: Percentage of students of senior secondary schools on the basis of stream

Stream	Frequency	Percentage
Science	157	35
Commerce	151	33.6
Arts	141	31.4
Total	449	100

Figure 1.3: Percentage of students of senior secondary schools on the basis of stream



The table is showing the stream wise distribution of students. It can be seen that 157 students were selected from science, 151 from commerce and 141 from arts. That means almost equal number of students were from science stream, commerce stream, and arts stream i.e., 35%, 33.6% and 31.4% respectively. This is also evidenced with bar graph shown above.

1.2 Results pertaining to the comparison of types of student engagement among senior secondary school students with respect to gender, stream of study and type of school.

For this purpose the investigator collected data from senior secondary school students. The data was collected by using standardized scale of student engagement. The results obtained have been shown below: There are three dimensions of student engagement i.e. emotional engagement, cognitive engagement and behavioral engagement. The results for these factors are shown below

1.2a To compare student engagement among male and female senior secondary students

Table 1.4 Gender wise difference in student engagement

Variable	Gender	N	Mean	SD	T	F	Sig. (2-tailed)	Interpretation
Emotional Engagement	Male	228	40.68	7.297	2.960*	447	.003	Significant
	Female	221	38.39	9.033				
Cognitive Engagement	Male	228	39.95	9.536	3.512*	447	.000	Significant
	Female	221	36.94	8.589				
Behavioral Engagement	Male	228	31.98	6.961	2.672*	447	.008	Significant
	Female	221	30.12	7.780				

*0.05 level of significance

From table it is clear that in the first dimension of student engagement i.e. emotional engagement (EE) mean value of male students 40.68 with SD of 7.297 which is higher than mean emotional engagement of female students 38.39 with SD of 9.033. t-value is 2.960 which is significant at both levels of significant (p-value is 0.003 which is less than 0.05). So it can be interpreted that there is a significant difference among male and female senior secondary school students in their emotional engagement. On comparison of means, males have high emotional engagement than females.

The second dimension which is cognitive engagement shows the mean value of male students 39.95, SD 9.536 is higher than mean value of female students 36.94, SD 8.589. t-value is 3.512 which is significant because p-value is 0.000 i.e. less than 0.05. This clearly indicates that there is a significant difference among male and female senior secondary school students in the cognitive engagement. On comparing means, it is found that males are more cognitively engaged than females.

The third dimension behavioral engagement shows that mean value of male students 31.98 with SD of 6.961 is higher than mean value of females 30.12 with SD of 7.780. t-value is 2.672 leads to significant results as p-value 0.008 is less than 0.05 meaning thereby there is a significant difference among male and female senior secondary students in terms of behavioral engagement. When mean values are compared, it is found that males have higher behavioral engagement than females.

Therefore, null hypothesis stated “there is no significant difference among male and female senior secondary students in terms of student engagement” is not accepted. As per review of literature, Shaun et. al. (2004) found that there was no significant difference between men and women with respect to student engagement. There is one more study done by Ruslin et. al. (2014) which is contradictory to results that female has high level of student engagement than males.

1.2b To compare the student engagement among Meritorious, Government and Private senior secondary school students

Table 1.5 showing descriptive statistics (mean and std. deviation) of student engagement w.r.t. type of school

Variable	Stream	N	Mean	SD
EE	Meritorious	163	42.99	6.265
	Government	147	38.12	8.058
	Private	139	37.04	9.204
CE	Meritorious	163	41.75	8.541
	Government	147	37.21	8.758
	Private	139	35.96	9.328
BE	Meritorious	163	31.64	7.462
	Government	147	30.36	7.744
	Private	139	31.14	7.020

Table 1.6 ANOVA table for analysis of student engagement with respect to type of school

EE	Variable	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
	Between Groups	3102.270	2	1551.135	25.132	.000	Significant
	Within Groups	27526.750	446	61.719			
CE	Between Groups	2862.953	2	1431.477	18.228	.000	Significant
	Within Groups	35024.891	446	78.531			
BE	Between Groups	128.340	2	64.170	1.164	.313	Insignificant
	Within Groups	24577.656	446	55.107			

From table 1.5 it is evident that mean value in emotional engagement of meritorious school students is highest (M=42.99) with SD 6.265 followed by students of government school (M= 38.12) with SD 8.058 and then of private school students (M=37.04) with SD 9.204. The mean value of emotional engagement of private school students is slightly lower than government school.

From ANOVA table 1.6 it can be seen that F value is 25.132, p-value is 0.000 which is less than 0.05 which leads to significant results. Therefore, it is clear that there is significant difference in emotional engagement between students of meritorious, government and private schools. Students of different type of schools have significant difference in level of emotional engagement.

The second dimension is cognitive engagement in which mean value of meritorious school students is highest (M=41.75) with SD 8.541 followed by students of government school (M= 37.21) with SD 8.758 while mean value of students of private schools is relatively lower (M=35.96) with SD 9.328. It is clear from table that F value is 18.229, p= 0.000 which is less than 0.05 which leads to significant results meaning thereby students of different types of schools have significant difference in levels of cognitive engagement.

The third dimension is behavioral engagement which shows the mean value of students of meritorious school is highest ($M=31.64$) with SD 7.462 followed by students of private schools ($M=31.14$) with SD 7.020 while mean value of students of government schools is relatively lower ($M=30.36$) with SD 7.744. Mean behavioral engagement of students of government schools is slightly lower than mean behavioral engagement of students of private schools. It is clear from ANOVA table that F value is 1.164 and p value is 0.313 which is greater than 0.05, hence the difference is statistically insignificant. Thereby students of different types of schools have no significant difference in level of cognitive engagement.

Therefore, null hypothesis, null hypothesis “there is no significant difference among students of different types of senior secondary school in the cognitive and emotional engagement” is not accepted. On the other hand, “there is no significant difference among students of different types of senior secondary school in the behavioral engagement” is accepted.

As there is significant difference in emotional as well as cognitive engagement among students of meritorious, government and private schools. In order to find out difference among groups post hoc is applied and results of post hoc are shown below.

Table 1.7 Post Hoc table for Emotional Engagement w.r.t. type of school

Dependent Variable	(I) Type of School	(J) Type of School	Mean Difference (I-J)	Std. Error	Sig.
EE	Meritorious	Government	4.872*	.894	.000
		Private	5.945*	.907	.000
	Government	Meritorious	-4.872*	.894	.000
		Private	1.072	.929	.482
	Private	Meritorious	-5.945*	.907	.000
		Government	-1.072	.929	.482

From the above Post Hoc table it is clear that there is no significant difference between students of government school and students of private schools with respect to cognitive engagement because p-value (0.482) found to be more than 0.05. But the students of meritorious schools differ significantly from students of government schools and of private schools in terms of emotional engagement. On comparing the means (Table 1.5) it is found that mean value of students of meritorious schools ($M=42.99$) is more than mean value of students of government schools ($M=38.12$) and mean value of students of private schools ($M=37.04$). Therefore, students of meritorious school have more emotional engagement in comparison to students of government and private school.

Table 1.8 Post Hoc table for Cognitive Engagement w.r.t. type of school

Dependent Variable	(I) Type of School	(J) Type of School	Mean Difference (I-J)	Std. Error	Sig.
CE	Meritorious	Government	4.538*	1.008	.000

	Government	Private	5.792*	1.023	.000
		Meritorious	-4.538*	1.008	.000
		Private	1.254	1.048	.456
	Private	Meritorious	-5.792*	1.023	.000
		Government	-1.252	1.048	.456

From the above Post Hoc table it is clear that there is no significant difference between students of government school and students of private schools with respect to cognitive engagement because p-value (0.456) found to be more than 0.05. But the students of meritorious schools differ significantly from students of government schools and of private schools in terms of emotional engagement. On comparing the means (Table 1.5) it is found that mean value of cognitive engagement students of meritorious schools (M=41.75) is more than mean value of students of government schools (M=37.21) and mean value of students of private schools (M=35.96). Therefore, students of meritorious school have more cognitive engagement in comparison to students of government and private school.

The results are not in congruence with the study in which Adediwura (2008) found that there is no significant difference between public and private schools with respect to student engagement.

1.2c To compare the student engagement among Science, Commerce and Arts stream senior secondary school students

Table 1.9 showing descriptive statistics (mean and std. deviation) of student engagement w.r.t. stream

Variable	Stream	N	Mean	SD
EE	Science	157	39.95	8.566
	Commerce	151	39.70	7.608
	Arts	141	38.95	8.627
CE	Science	157	37.99	8.983
	Commerce	151	38.46	9.137
	Arts	141	39.02	9.523
BE	Science	157	30.50	7.661
	Commerce	151	30.32	7.122
	Arts	141	32.59	7.327

Table 1.10 ANOVA table for analysis of student engagement with respect to stream

EE	Variable	Sum of Squares	Df	Mean Square	F	Sig.	Interpretation
	Between Groups	79.693	2	39.846	0.582	.559	Insignificant
	Within Groups	30549.327	446	68.496			

CE	Between Groups	79.463	2	39.732	0.469	.626	Insignificant
	Within Groups	37808.381	446	84.772			
BE	Between Groups	426.757	2	213.379	3.920	.021	Significant
	Within Groups	24279.238	446	54.438			

From table 1.9 it is evident that mean value in emotional engagement of science stream students is highest (M=39.95) with SD 8.566 followed by students of commerce stream (M= 39.70) with SD 7.608 and then of arts stream students (M=38.95) with SD 8.627. The mean emotional engagement of commerce stream students is slightly lower than students of science stream.

From ANOVA table 1.10 it can be seen that F value of emotional engagement is 0.582, p-value is 0.559 which is more than 0.05 which leads to insignificant results. Therefore, it can be concluded that students of different streams have no significant difference in levels of emotional engagement.

The second dimension is cognitive engagement in which mean value of arts stream students is highest (M=39.02) with SD 9.533 followed by students of commerce stream (M= 38.46) with SD 9.137 and then of science stream students (M=37.99) with SD 8.983. It is clear from table 1.10 that F value is 0.469, p= 0.626 which is more than 0.05 which leads to insignificant results. Therefore, it can be concluded that students of different streams no significant difference in level of cognitive engagement.

When it comes to behavioral engagement mean value of arts stream students is highest (M=32.59) with SD 7.327 followed by students of science stream (M= 30.50) with SD 7.661 and then of commerce stream students (M=30.32) with SD 7.327. The mean behavioral engagement of commerce stream students is slightly lower than students of science stream. Further, it is clear from ANOVA table that F value is 3.920 and p value is 0.021 which is less than 0.05, hence the difference is statistically significant. Therefore, it can be concluded that students of different types of schools have significant difference in levels of behavioral engagement.

As there is significant difference in behavioral engagement among students of Science, Arts, and Commerce streams. In order to find out difference among groups post hoc is applied and results of post hoc are shown below.

Table 1.11 Post Hoc table for Behavioral Engagement w.r.t. stream

Dependent Variable	(I) Stream	(J) Stream	Mean Difference (I-J)	Std. Error	Sig.
BE	Science	Commerce	.179*	.841	.975
		Arts	-2.007	.856	.051
	Commerce	Science	-1.79*	.841	.975
		Arts	-2.185*	.864	.032
	Arts	Science	2.007	.856	.051

		Commerce	2.185*	.864	.032
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*. The mean difference is significant at the 0.05 level.

From the above Post Hoc table it is clear that there is no significant difference between students of science and commerce stream respect to behavioral engagement because p-value (0.975) found to be more than 0.05. But the students of arts stream differ significantly from students of science stream and of commerce stream in terms of behavioral engagement. On comparing the means (Table 1.9) it is found that mean value of students of arts stream (M=32.59) is more than mean value of students of science stream (M=30.50) and mean value of students of commerce stream (M=30.32). Therefore, from students commerce and arts stream, the students belong to arts stream have more behavioral engagement than commerce stream. Furthermore, students of arts stream possess more behavioral engagement in comparison with students of science stream.

CONCLUSION

The main motive of the study was to compare the type of student engagement among senior secondary school students with respect to selected demographic variables i.e. gender, type of school and stream of study. The results revealed that in terms of gender, male students have high student engagement in all dimensions i.e. emotional engagement, cognitive engagement and behavioral engagement than females. Furthermore, students of meritorious, government and private schools differ significantly in emotional engagement and cognitive engagement. But there is no significant difference among students of meritorious, government and private schools in behavioral engagement. On further analysis, it was found that students of meritorious schools have more emotional engagement in comparison to students of government and private school and students of meritorious school were more cognitively engaged in comparison to students of government and private school. When it comes of stream of study, the students of different streams had no significant difference in levels of emotional engagement and cognitive engagement. But they differ significantly in terms of behavioral engagement. After further analysis, it was found that there was no significant difference between students of science and commerce stream respect to behavioral engagement. But, from students commerce and arts stream, the students belong to arts stream have more behavioral engagement than commerce stream. Furthermore, students of arts stream possess more behavioral engagement in comparison with students of science stream.

Adediwura

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