

Attitude of College Students towards E-Learning

L. Jaya Singh Dhas

Department of Computer Science, Scott Christian College (Autonomous) Nagercoil, Kanyakumari District, Tamilnadu, India.

jayasinghdhas@scottchristian.org

ABSTRACT

E-learning has assumed immense significance in the education system of the country. Nowadays, many Colleges are equipped with computers for educating their students. Thereby making computers an integral part of education system. Teachers and Professors use computers for teaching, giving presentations, assessing various data banks, maintaining database of students, communication in the form of e-mails or chat, browsing the Internet and preparing students to have a competitive edge in the global job market.

Keywords: Attitude, E-learning, Normative survey method, T-Test, ANOVA

1. INTRODUCTION

The study of attitude and measurement is an important area in educational psychology. The present study is under taken with the view of assessing the attitude of College students towards E-learning in relation to gender, subject, optional subjects, locality, qualification, marital status, religion, community and ambitions. For this purpose, 376 College students in Kanyakumari district are taken as samples. The result of the present study helps to know about the Attitude of College students towards e-learning and will be significant and helpful to teachers and others in the academic area to improve their attitude in using e-learning.

1.1 Objectives of the Study

The major objectives of the present investigation were,

1. To know the level in the attitude of College students towards E-learning.
2. To find out the significant difference between the attitude of College students towards E-learning with respect to their background variables.
3. To find out the significant difference, if any between the attitude of College students towards E-learning with respect to all subjects.

1.2 Hypothesis of the study

1. There is no significant difference in the level of attitude of College students towards E-learning (High, Average & Low).

2. There is no significant difference between the attitude of male and female College students towards E-learning.
3. There is no significant difference between the attitude of Arts and Science College students towards E-learning.
4. There is no significant difference between the attitude of Computer Science and Non-Computer Science College students towards E-learning.
5. There is no significant difference between the attitude of Computer Science male and Non-Computer Science male College students towards E-learning.
6. There is no significant difference between the attitude of female Computer Science and female Non-Computer Science College students towards E-learning.
7. There is no significant difference between the attitude of male and female English medium College students towards E-learning.
8. There is no significant difference between the attitude of College students towards E-learning based on locality(Urban/Rural).
9. There is no significant difference between the attitude of married and un-married College students towards E-learning.
10. There is no significant difference among the attitude of Graduate, Postgraduate and M.Phil, College students towards E-learning based on their educational qualifications.

2. NORMATIVE SURVEY METHOD

Normative survey method is a method of investigation which attempts to describe and interpret what exists at present in the form of conditions, practices, processes, trends effects attitudes beliefs etc. The word survey indicates the gathering of the data. The word normative is used because surveys are

frequently made for the purpose of ascertaining which is the normal or typical condition of practice George J. Mouly has said that no category of educational research is more widely used than the type survey known variously as the survey, the normative survey status and descriptive research.

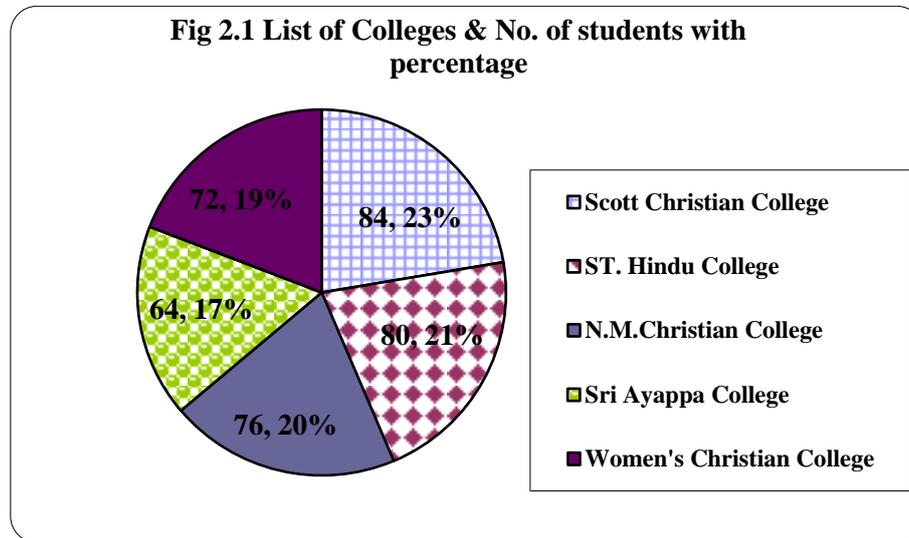


Table 2.1 Gender wise distribution of the sample

Sl.No.	Gender	Number	Percentage
1.	Male	45	11.97
2.	Female	331	88.03
	Total	376	100

The above table shows that out of 376 students taken for the study 45 (11.97%) students are male and 331 (88.03%) students are female.

Table 2.2 Subject wise distribution of the sample

Sl.No.	Subject	Number	Percentage
1.	Arts	160	42.55
2.	Science	216	57.45
	Total	376	100

The above table shows that out of 376 students taken for the study 160 (42.55%) students are from arts and 216 (57.45%) students are from science.

Table 2.3 Medium wise distribution of the sample

Sl.No.	Medium	Number	Percentage
1.	Tamil	180	47.87
2.	English	196	52.13
	Total	376	100

The above table shows that out of 376 students taken for the study 180 (47.87%) students are Tamil and 196 (52.13%) students are English.

Table 2.4 Locality wise distribution of the sample

Sl.No.	Locality	Number	Percentage
1.	Rural	282	75
2.	Urban	94	25
	Total	376	100

The above table shows that out of 376 students taken for the study 282 (75%) students are from Rural and 94 (25%) students are from Urban.

Table 2.5 Marital Status wise distribution of the sample

Sl.No.	Marital Status	Number	Percentage
1.	Married	117	31.12
2.	Un-married	259	68.88
	Total	376	100

The above table shows that out of 376 students taken for the study 117 (31.12%) students are Married and 259 (68.88%) students are Un-married.

Table 2.6 Qualification wise distribution of the sample

Sl.No.	Qualification	Number	Percentage
1.	Graduate (U.G)	256	68.09
2.	Postgraduate(P.G)	103	27.39
3.	M.Phil	17	4.52
	Total	376	100

The above table shows that out of 376 students taken for the study 256 (68.09%) students are Graduate, 103(27.39%) students are Post graduate and 17(4.52%) students are M.Phil.

3. TOOL USED FOR THE STUDY

Tools are instruments employed as a measure together with new facts or to explore new fields. The tools of research are the instruments that provide for the collection of data upon which hypothesis may be tested. The important tools of educational research include schedules, questionnaire, check list, attitude scale, observation, rating scale, interview, psychological test and sociogram. In research different tools are suitable for collecting different types of data.

Considering the objectives of the study the investigator decided to use questionnaire along with a personal data sheet, which was intended to collect the details regarding name, sex, name of the college, locality, marital status, religion, caste, etc.

Tools used for the present study was validated by Manila Ragavan. It consists of 30 questions with favorable and unfavorable statements carrying 5 options namely (i)

Strongly Agree (ii) Agree (iii) Undecided (iv) Disagree (v) Strongly Disagree.

3.1 Statistical Techniques Employed

The following statistical techniques were used in the analysis of data.

- i) Mean
- ii) Standard Deviation
- iii) Test of Significance
- iv) One Way Analysis of Variance [ANOVA]
- v) Percentage Analysis

(i) Mean

Mean is defined as the average value of scores of a group

$$\text{Mean } X = \frac{\sum X}{N}$$

Where, \bar{X} = Symbol for mean

$\sum X$ = The sum of the series of subjects

N = Total number of items

(ii) Standard Deviation

The square root of the average of squares, of deviations of scores from mean of scores of a group is called standard deviation.

Standard Deviation is calculated using the formula,

$$\text{Standard Deviation } (\sigma) = \frac{\sqrt{\frac{\sum fd^2}{N}}}{C}$$

Where,

- d = deviation of the scores from the assumed mean.
- f = frequency
- N = Total frequency
- C = Length of the class interval
- d = deviation $x - \bar{x}$
- \bar{x} = Mean

(iii) Test of significance (T-Test)

The test of significance is used to find the significant level of difference between two groups of populations. From the mean and standard deviation of the two groups the T-values are calculated. If the obtained T-value is 2.58 and above, the significant level of difference is 0.01 and 2.58, the significant is 0.05, if the value is below 1.96 the difference is not significant at any level.

$$T = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

Where,

- \bar{x}_1 = Mean of the first sample
- \bar{x}_2 = Mean of the second sample
- σ_1 = Standard deviation of the first sample
- σ_2 = Standard deviation of the second sample
- N_1 = Total number of frequency of the first sample
- N_2 = Total number of frequency of the second sample

(iv) Analysis of variance [ANOVA]

ANOVA is used to examine the significance of more than two sample means at the same time. Prof. R.A.Fisher developed an elaborate theory concerning ANOVA. It is otherwise called 'F - test'. It consists of the following operation.

1. Obtain the mean of each sample, find out the

correction term.

$$C = \frac{(\sum X)^2}{N}$$

2. Then find $\sum X^2$

$$\sum X^2 = \sum X_1^2 + \sum X_2^2 + \sum X_3^2 + \dots$$

Then find the total sum of squares

$$S_t^2 = \sum X^2 - \frac{(\sum X)^2}{N}$$

3. Find out sum of squares between groups

$$S_b^2 = \frac{(\sum X_1)^2}{n_1} + \frac{(\sum X_2)^2}{n_2} + \frac{(\sum X_3)^2}{n_3} - C$$

4. Find out sum of squares within groups

$$S_w^2 = S_t^2 - S_b^2$$

5. Find out the number of degrees of freedom

- Number of df for total sum of squares S_t^2 is N - 1
- Number of df for sum of squares between groups S_b^2 is K - 1
- Number of df for sum of squares within groups S_w^2 is N - K

6. Calculation of F - Ratio

$$F = \frac{\text{Mean square variance between groups } (\sigma_b^2)}{\text{Mean square variance between groups } (\sigma_w^2)}$$

$$\sigma_b^2 = \frac{S_w^2}{df}$$

8. Comparison of the calculated value with the table value.

study. Here the level of aptitude in various dimensions of teaching profession with respect to the different variables included in the study is checked using percentage Analysis. The level is classified as high, average, and low.

$$\text{Percentage} = \frac{\text{Number of subjects}}{\text{Total Number of subjects}} \times 100$$

(V) Percentage Analysis

The Percentage Analysis is the method used to determine the level of any dimension included in the

4. DATA ANALYSIS

Table 4.1

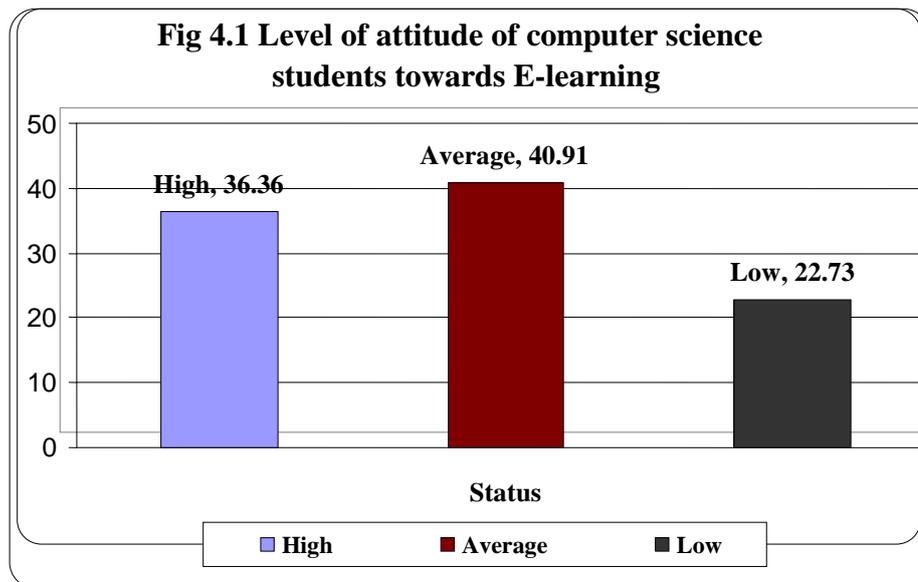
Level of attitude of Computer & Non-computer College students towards E-Learning

Subject	High		Average		Low		Total	
	Nos.	%	Nos.	%	Nos.	%	Nos.	%
Computer Students	16	36.36	18	40.91	10	22.73	44	100.0
Non- Computer Students	63	18.98	186	56.02	83	25.00	332	100.0

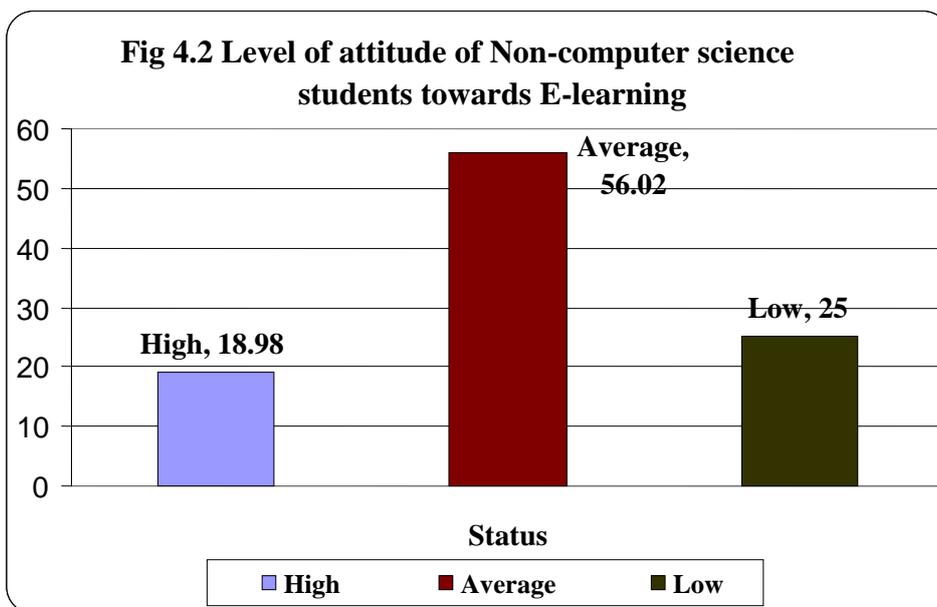
From the above table 4.1, among 44 Computer students 16 students have high attitude towards E-learning, 18 students have average attitude towards E-learning, and 10 students have low attitude towards E-learning. Among 332 Non-

Computer students 63 students have high attitude towards E-learning, 186 students have average attitude towards E-learning, and 83 students have low attitude towards E-learning.

The following figure 4.1 shows the level in the attitude of computer science students teachers towards E-learning.



The following figure 4.2 shows the level in the attitude of Non-computer science students towards E-learning.



Null Hypothesis: 2

There is no significant difference in the attitude of Male and Female College students towards E-learning.

Table 4.2

Mean, Standard deviation and calculated ‘t’ value scores of the attitude of Male and Female College students towards E-learning

Gender	Number	Mean	Standard Deviation	‘t’-Value	Table Value	Remarks
Male	45	111.6000	11.0646	1.6867	1.96	NS
Female	331	108.6858	9.3532			

NS = No significant

Interpretation

It is inferred from the table 4.2 that the calculated ‘t’-value (1.6867) is less than the table value (1.96) at 0.05 level. Hence the null hypothesis “there is no significant difference in the attitude of Male and Female students towards E-learning” is

accepted. It means there is no significant difference between the Male and Female students towards E-learning.

Null Hypothesis: 3

There is no significant difference in the attitude of Arts and Science College students towards E-learning.

Table 4.3

Mean, Standard deviation and calculated ‘t’ value scores of the attitude of Arts and Science College students towards E-learning

Subject	Number	Mean	Standard Deviation	‘t’-Value	Table Value	Remarks
Arts	160	108.2750	8.8217	1.3485	1.96	NS
Science	216	109.5972	10.1289			

NS = No significant

It is inferred from the table 4.3 that the calculated 't'-value (1.3485) is less than the table value (1.96) at 0.05 level. Hence the null hypothesis "there is no significant difference in the attitude of Arts and Science students towards E-learning" is accepted. It means there is no significant difference between the Arts and Science students towards E-learning.

Null Hypothesis : 4

There is no significant difference between the attitude of Computer Science and Non-Computer Science College students towards E-learning.

Table 4.4

Mean, Standard deviation and calculated 't' value scores of the attitude of Computer Science and Non-Computer Science College students towards E-learning

Subject	Number	Mean	Standard Deviation	't'-value	Table Value	Remarks
Computer Science	44	108.3181	10.1449	0.5018	1.96	NS
Non-Computer Science	332	109.1295	9.5426			

NS = No significant

It is inferred from the table 4.4 that the calculated 't'-value (0.5018) is less than the table value (1.96) at 0.05 level. Hence the null hypothesis "there is no significant difference in the attitude of Computer science and Non-Computer Science students towards E-learning" is accepted. It means there is no

significant difference between the Computer science and Non-Computer Science students towards E-learning.

Null Hypothesis : 5

There is no significant difference between the attitude of male Computer Science and male Non-Computer Science male College students towards E-learning.

Table 4.5

Mean, Standard deviation and calculated 't' value scores of the attitude of male Computer Science and male Non-Computer Science College students towards E-learning

Subject	Number	Mean	Standard Deviation	't'-value	Table Value	Remarks
Computer Science male	4	119.5000	11.4746	1.4492	1.96	NS
Non-Computer Science male	41	110.8292	10.8602			

NS = No significant

It is inferred from the table 4.5 that the calculated 't'-value (1.4492) is less than the table value (1.96) at 0.05 level. Hence the null hypothesis "there is no significant difference in the attitude of male Computer science and male Non-Computer Science students towards E-learning" is accepted. It means there is no significant difference between the male Computer

science and male Non-Computer Science students towards E-learning.

Null Hypothesis : 6

There is no significant difference between the attitude of female Computer Science and female Non-Computer Science College students towards E-learning.

Table 4.6

Mean, Standard deviation and calculated 't' value scores of the attitude of female Computer Science and female Non-Computer Science College students towards E-learning

Subject	Number	Mean	Standard Deviation	't'-value	Table Value	Remarks
Female Computer Science	40	107.2000	9.4467	1.0623	1.96	NS
Female Non-Computer Science	291	108.8900	9.3381			

NS = No significant

It is inferred from the table 4.6 that the calculated 't'-value (1.0623) is less than the table value (1.96) at 0.05 level. Hence the null hypothesis "there is no significant difference in the attitude of female Computer Science and female Non-Computer Science students towards E-learning" is accepted. It means there is no significant difference between the female

Computer science and female Non-Computer Science students towards E-learning.

Null Hypothesis : 7

There is no significant difference between the attitude of male and female English medium College students towards E-learning.

Table 4.7

Mean, Standard deviation and calculated 't' value scores of the attitude of male and female English medium College students towards E-learning

Subject	Number	Mean	Standard Deviation	't'-value	Table Value	Remarks
English Male	29	113.5862	8.1263	2.7330	1.96	S
English Female	167	109.0359	9.0898			

S = Significant

It is inferred from the table 4.7 that the calculated 't'-value (2.7330) is greater than the table value (1.96) at 0.05 level. Hence the null hypothesis "there is significant difference in the attitude of male and female English medium students towards E-learning" is rejected. It means there is significant difference between the male and female English medium students towards E-learning.

The male College students have more favourable attitude (113.5862) towards E-learning than female.

Null Hypothesis : 8

There is no significant difference between the attitude of College students towards E-learning based on their locality(Urban/Rural).

Table 4.8

Mean, Standard deviation and calculated 't' value scores of the attitude of College students towards E-learning based on their locality

Locality	Number	Mean	Standard Deviation	T-Value	Table Value	Remarks
Urban	282	109.3546	10.3987	0.0599	1.96	NS
Rural	94	108.0744	9.3223			

NS = No Significant

It is inferred from the table 4.8 that the calculated 't'-value (0.0599) is less than the table value (1.96) at 0.05 level. Hence the null hypothesis "there is no significant difference in the attitude of Urban and Rural students towards E-learning" is

accepted. It means there is no significant difference between the Urban and Rural students towards E-learning.

Null Hypothesis : 9

There is no significant difference between the attitude of married and un-married College students towards E-learning.

Table 4.9

Mean, Standard deviation and calculated 't' value scores of the attitude of married and unmarried College students towards E-learning

Marital Status	Number	Mean	Standard Deviation	't'-value	Table Value	Remarks
Married	117	110.2820	9.8557	1.6704	1.96	NS
Un-married	259	108.4710	9.4542			

NS = No Significant

It is inferred from the table 4.9 that the calculated 't'-value (1.6704) is less than the table value (1.96) at 0.05 level. Hence the null hypothesis "there is no significant difference in the attitude of married and un-married students towards E-learning" is accepted. It means there is no significant

difference between the married and unmarried students towards E-learning.

Null Hypothesis : 10

There is no significant difference among the attitude of Graduate, Postgraduate and M.Phil, College students towards E-learning based on their educational qualifications.

Table 4.10

Analysis of Variance for the students with their different educational qualifications

Educational Qualifications	Number	Sum	Average	Variance
Graduate	256	27794	108.5703	91.9793
Postgraduate	103	11252	109.2427	91.0875
M.Phil	17	1951	114.7647	76.8161

ANOVA Result

Source of Variation	SS	DF	MS	F	F CRIT	Remark
Between Groups	617.83	2	308.9126	3.3914	3.0199	S
Within groups	33974.73	373	91.0850			
Total	34592.56	375				

S = Significant

It is inferred from the table 4.10 that the calculated F-value (3.3914) is greater than the F-critical value (3.0199) at 0.05 level. Hence the null hypothesis "there is significant difference among the attitude of Graduate, Postgraduate and M.Phil, College students towards E-learning" is rejected. It means there is significant difference among the attitude of Graduate, Postgraduate and M.Phil, College students towards E-learning.

The College students having M.Phil qualifications were more favourable attitude (114.7647) towards E-learning than graduate and postgraduate College students.

Findings

1. The College students shows average attitude towards E-learning.
2. There is no significant difference between the attitude of male and female students towards E-learning.

3. There is no significant difference between the attitude of Arts and Science College students towards E-learning.
4. There is no significant difference between the attitude of Computer Science and Non-Computer Science College students towards E-learning.
5. There is no significant difference between the attitude of Computer Science male and Non-Computer Science male College students towards E-learning.
6. There is no significant difference between the attitude of female Computer Science and female Non-Computer Science College students towards E-learning.
7. There is significant difference between the attitude of male and female English medium College students towards E-learning.
English medium male students performed better than and English female students in their attitude towards E-learning.
8. There is no significant difference between the attitude of College students towards based on locality(Urban/Rural).
9. There is no significant difference between the attitude of married and un-married College students towards E-learning.
10. There is significant difference among the attitude of Graduate, Postgraduate and M.Phil, College students towards based on their educational qualifications.

The College students having M.Phil qualifications have more favourable attitude (114.7647) towards than graduate and postgraduate College students.

5. CONCLUSION AND RECOMMENDATIONS

In this World, without Computer man is zero. It is a unique study conducted in a developing country like India, to study the computer knowledge and attitude towards e-learning. The present study has revealed many interesting findings. From this investigation it is clear that both Computer Science and Non-Computer Science College students have average attitude towards e-learning. To improve the attitude of college students immediate steps should be taken because computer is an essential part in every aspect of human life, especially in teaching and learning. A glorious revolution has occurred in

the field of . Computer Assisted instruction, On-line learning, Web-based project, LCD presentation, Video Conferencing, ICT, etc., are the products of the computer revolution.

College teachers are far behind in utilizing the computer aided teaching materials. So to improve the using of computer learning and teaching materials they should be educated about the use of computer aids. They should be encouraged in using computer teaching aids. In each and every college should be taught as a subject. The Government and management must support them by giving financial assistance to buy computer equipments. Workshops and training should be conducted in the field of to improve their attitude towards .

English Male students differ significantly and performed better than female students because male students have more freedom than female and they are more free to attend and arrange seminars. They have wider knowledge than females. Based on the educational qualifications of College students M.Phil students differ significantly and performed better when comparing with graduate and postgraduate students because they need more information about their subject for writing assignments, minor project, taking notes and also to update their knowledge.

Even though computer is used in every walk of our life, the present study shows average attitude towards. So steps should be taken to improve the e-learning.

6. SUGGESTIONS FOR FURTHER RESEARCH

The present study was confined to the arts and science Colleges in Kanyakumari District. Similar study may be conducted in our state and in other districts of the state also.

1. The present investigation was limited to the students in colleges only. Similar study may be conducted on the students in DIETs, Teacher training institutions Engineering colleges and poly technique Colleges.
2. The present study may be extended to the graduate and postgraduate students of Arts, Science, Commerce, Law, Management studies, Engineering and Medicine Colleges in different Universities.
3. The present study may be extended to the students of Urban & Rural Colleges so as to make a comparative study. The present study may be extended by including

additional variables such as social, economic and cultural variables.

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