DOI : 10.18843/ijms/v5i2(3)/15
DOI URL :http://dx.doi.org/10.18843/ijms/v5i2(3)/15

Gender Differences in Internet usage among Research Students: A Comparative Study

Gagandeep Kaur,
Research Scholar,
Punjab Technical University,
Jalandhar, India.

Dr. Rohan Sharma,
Assistant Professor,
IH Group of Institutions,
Jalandhar, India.

ABSTRACT

The role of computer and internet as the means for socialization, education, information access, entertainment, shopping and communication is increasing dramatically in the life of youth. The internet has completely revolutionized the way information is accessed. Keeping in view the importance of the internet in general life and particularly in research and studies, the present paper was planned on PAU, Ludhiana research scholars with the objectives; to work out the extent of internet usage by research students; and to find out the gender difference in internet usage among research students. The sample size comprised 200 students. For the purpose of data collection, questionnaire was structured for the students. The required primary data from the students were collected in the questionnaire through personal interview method. The collected data were analyzed by applying t-test, chi-square test and z-test. The results of the study revealed that the male and female respondents spent higher time on educational sites, social networking sites and chatting sites as compared to that on religious sites, pornographic sites and magazine sites. The analysis showed that significantly higher frequency score was there for class assignments /projects, searching related literature and structuring of data collection tool among female respondents as compared to that among male respondents. On the other hand, significantly higher frequency score for preparing synopsis was there among male respondents as compared to that among female respondents. Time spent for different topics of research was similar by male and female respondents, except for searching appropriate statistical tools where female researchers devoted higher time as compared to that by the male researchers.

Keywords: Internet Usage; Research Students; PAU (Ludhiana).

INTRODUCTION:

The computer and communications world has been revolutionized by the internet like nothing before. The stage for this unprecedented growth was set with the invention of the telegraph, telephone, radio and computer (B.M Leiner et al., 2009). The Internet, sometimes called "the Net," is a worldwide system of computer networks in which users can get information from any other computer. The Internet is revolutionizing our society, our economy and our technological systems. The Internet, as an integrating force, has melded the technology of communications and computing, providing instant connectivity and global information services to all its users at very low cost. It is the 21st century gateway of opportunity for the youth. The role of computer and internet as the means for socialization, education, information access, entertainment, shopping and communication is increasing dramatically in the life of youth (Tewari 2007).

Internet adoption is continuing to grow in India. According to the Internet & Mobile Association of India (IAMAI), the reason for the increased Internet usage is the low cost of broadband. Broadband policy and other initiatives by the IT and Telecom Ministry has encouraged increased adoption. According to IAMAI, Indians go online for a large number of activities including e-mail (98 percent); job search (51 percent); banking (32

percent); bill payment (18 percent); stock trading (15 percent); and matrimonial search (15 percent).
Keeping in view the importance of internet in general life and particularly in research and studies, the present paper was planned on PAU research scholars with the following specific objectives:

OBJECTIVES OF RESEARCH:

The proposed study was carried out with following objectives:
1. To work out the extent of internet usage by research students;
2. To find out the gender difference in internet usage among research students.

REVIEW OF LITERATURE:

Mahajan, P., (2006), in her study titled "Internet Use by Researchers: A Study of Panjab University, Chandigarh," found that the Internet had a great impact on the academic environment. The researchers in the sciences were making maximum use of the Internet facility provided by the university; however, researchers in other fields relied on bibliographies and printed journals.
Mulimani, M. N., and Gudimani, S. B., (2008), in the study titled, "Usage of Internet by Students and Research Scholars of Karnataka University Library: A Survey," showed that majority of the respondents used Internet to keep abreast with the research and academic purpose.
Komathi, M., and Maimunah, I., (2009), in the study "Influence of Gender Role on Internet Usage Pattern at Home Among Academicians," showed that gender role to certain extent did influence the Internet usage pattern at home. Women were seen to have more limitations compared to men to access to the Internet at any time due to family commitment.
Abedalaziz, N., Jamaluddin, S., Leng, C. H., (2013), in the study entitled, "Measuring Attitudes Towards Computer and Internet Usage Among Postgraduate Students in Malaysia," revealed that participants had a high level perception of the usefulness and their control of the computer and Internet, no significant differences were found between participants' attitudes toward the Internet and computer related with gender, field of study, and ethnicity and postgraduate student's attitudes toward computer and Internet usage was found to be age related.
Kochhar, S., et al., (2013), in their study, "Knowledge and Usage of Internet among different professional students in India," found that majority of participants used internet for social networking sites rather than study purpose and reported home as the best place for internet usage. Males showed more scores than their counterparts and among all professional engineering students had a higher level of knowledge and accessing to it ($p<0.05$). The majority of the professional students in the present study had access to the internet for various reasons. A significant relationship was demonstrated regarding internet usage between gender and among different professional students.

RESEARCH METHODOLOGY:

The sample of the study was based on two-stage purposive-cum-convenient sampling technique. The study was purposively conducted in Punjab Agricultural University(PAU), Ludhiana, which is worldwide known for its contribution to the agrarian economy of India. The students undergoing research work under M.Sc. and Ph.D. streams of Punjab Agricultural University, Ludhiana were the population of the study. The sample size comprised 200 students. For the purpose of data collection, questionnaire was structured for students. The data from students were collected on the questionnaire through personal interview method. The collected data were analyzed by applying t-test, z-test and chi-square test.

RESULTS AND DISCUSSION:

No. of E-Mail Accounts:

The distribution of respondents according to the number of e-mail accounts has been presented in Table1. It shows that the highest proportion i.e. 71.21 percent of male respondents was having 1-2 e-mail accounts, followed by 21.21 percent with 3-4 e-mail accounts. The lowest proportion i.e. 7.58 percent of them was having more than 4 e-mail accounts. Similarly, majority i.e. 73.53 percent of female respondents was having 1-2 e-mail accounts, followed by 26.47 percent having 3-4 e-mail accounts. None of the female respondent was reported to be having more than 4 e-mail accounts. The average number of e-mail accounts worked at 2.18 and 1.88 in case of male and female respondents respectively, which were statistically at par with each other as indicated by the t-value of 1.90. The analysis revealed that the research scholars were operating with 2 e-mail accounts.

Table 1: Distribution of Respondents according to Number of E-mail Account

No. of e-mail Account	Male		Female	
	No.	%age	No.	%age
1-2	94	71.21	50	73.53
3-4	28	21.21	18	26.47
>4	10	7.58	0	0.00
Mean	2.18		1.88	
SD	1.17		0.80	
t-value	1.90			

Source: Author's Calculations

Time of Surfing Internet:

The information given in Table 2 showed that the highest proportion i.e. 74.24 percent of the male respondents used to surf internet in the evening, followed by 48.48 percent during night hours. The lowest proportion i.e. 13.64 percent of male respondents used to surf internet in morning, followed by 33.33 percent during day time.

In case of female respondents, the highest proportion i.e. 79.41 percent of them used to surf internet in the evening, followed by 32.35 percent during day time. The lowest proportion i.e. 19.12 percent used to surf internet in the morning, followed by 20.59 percent during night.

A similar pattern of timings of surfing internet was observed among male and female respondents, except during night, where significantly higher proportion of male respondents used to surf internet as compared to the female respondents. This is also confirmed by the Z-value of 3.83.

Table 2: Time of Surfing Internet by the Respondents (Multiple Response)

Time of Surfing	Male		Female		Z-value
	No.	%age	No.	%age	
Morning	18	13.64	13	19.12	1.01
Daytime	44	33.33	22	32.35	0.14
Evening	98	74.24	54	79.41	1.25
Night	64	48.48	14	20.59	3.83**

Source: Author's Calculation

Frequency of Surfing Internet:

The respondents were asked the frequency of surfing internet in terms of 'daily', '2-3 times a week', 'once a week', 'once a fortnight' and 'once a month'. These frequencies were given score in the order of 5, 4, 3, 2 and 1 to know the overall frequency in a group. Then the mean scores were compared between male and female respondents with the help of t-test. The results have been presented in Table 3.

Table clearly showed that majority i.e. 73.48 percent of male respondents used to surf internet daily, followed by 24.24 percent surfing 2-3 times a week. The lowest proportion i.e. 2.27 percent used to surf internet once a week. None of the male respondents surfed internet for less than once a week.

Table 3: Frequency of Surfing Internet by the Respondents

Frequency of Surfing	Male		Female	
	No.	%age	No.	%age
Daily	97	73.48	38	55.88
2-3 times a week	32	24.24	27	39.71
Once a week	3	2.27	3	4.41
Once a fortnight	0	0.00	0	0.00
Once a month	0	0.00	0	0.00
Mean	4.71		4.51	
Overall	Daily		Daily	
t-value	1.37			

Source: Author's Calculation

The highest proportion i.e. 55.88 percent of female respondents used to surf internet daily, followed by 39.71 percent surfing 2-3 times a week. The lowest proportion i.e. 4.41 percent used to surf internet once a week. None of the female respondents surfed internet for less than once a week.
The average score of 4.71 and 4.51 indicated that both male and female respondents used to surf internet almost daily. Hence the difference in the frequency of surfing internet was non-significant as indicated by the t-value of 1.37.

Duration of Surfing Internet:
The respondents were asked the time of surfing internet in one surfing time. Their responses are shown in Table 4.

Table 4: Duration of Surfing Internet in One Surfing Time

Duration of Surfing Internet	Male		Female	
	No.	%age	No.	%age
1 hour	60	45.45	28	41.18
2 hour	62	46.97	38	55.88
3 hours	10	7.58	2	2.94
>3 hours	0	0.00	0	0.00
Mean	1.62		1.62	
SD	0.62		0.55	
t-value	NA			

Source: Author's calculation

The Table clearly showed that the highest proportion i.e. 46.97 percent of male respondents used to surf internet for 2 hours in one go, followed by 45.45 percent for one hour. The lowest proportion i.e. 7.58 percent of them used to surf internet for 3 hours in one surfing time. None of the male respondents was reported to surf internet for more than 3 hours. Similarly, the highest proportion i.e. 55.88 percent of male respondents used to surf internet for 2 hours in one go, followed by 41.18 percent for one hour. The lowest proportion i.e. 2.94 percent of them used to surf internet for 3 hours in one surfing time. None of the female respondents was reported to surf internet for more than 3 hours. The average time of surfing internet in one surfing time came to be 1.62 hours both for male as well as female respondents.

Time Spent for Surfing Internet on Various Sites:
The time spent for surfing internet on various sites was observed in hours per week. The average hours spent per week on various sites are shown in Table 5.
The highest time spent was 3.53 hours per week by the male respondents on educational sites, followed by 3.50 hours on social networking sites, 2.47 hours on chatting sites, 2.35 hours on entertainment sites and 2.15 hours per week on search engine. The lowest time spent was 0.59 hours per week on religious sites, followed by 1.22 hours on pornographic sites, 1.52 hours on information sites, 1.56 hours on magazine sites and 1.87 hours on e-mail sites.

Table 5: Time Spent for Surfing Internet on Various Sites (Hours/Week)

Internet sites	Male		Female		t-value
	Mean	SD	Mean	SD	
e-mail	1.87	0.92	1.74	0.75	1.04
Chatting	2.47	1.35	2.43	1.45	0.19
Search Engine	2.15	0.94	2.21	1.09	0.41
Educational Sites	3.53	1.37	3.68	1.44	0.68
Pornographic websites	1.22	0.80	1.19	1.34	0.20
Entertainment Sites	2.35	1.29	2.03	1.10	1.75
Social Networking Sites	3.50	1.86	3.59	1.86	0.33
Magazine Sites	1.56	1.27	1.34	0.53	1.41
Religious Sites	0.59	0.52	0.76	0.87	1.79
Information Sites	1.52	0.81	1.54	0.77	0.21
Others	1.23	0.63	1.18	0.80	0.46

Source: Author's calculation

The highest time spent was 3.68 hours per week by the female respondents on educational sites, followed by 3.59 hours on social networking sites, 2.43 hours on chatting sites, 2.21 hours on search engine and 2.03 hours on entertainment sites. The lowest time spent was 0.76 hours per week on religious sites, followed by 1.19 hours on pornographic sites, 1.34 hours on magazine sites, 1.54 hours on information sites and 1.74 hours on e-mail sites. The analysis indicated that the extent of time spent on different sites by male and female respondents was similar. The male and female respondents spent higher time on educational sites, social networking sites and chatting sites as compared to that on religious sites, pornographic sites and magazine sites. Religious sites and pornographic sites were their least preference while educational sites and social networking sites were their most preferred sites.

Effect of Surfing Internet on Research/Studies:

As per Table 6, it is clear that majority of the PAU students were of the opinion that surfing internet exerted positive effect on their research work and study.

This figure came to be 74.24 percent of the male respondents and 85.29 percent of female respondents. Only 25.76 percent of male respondents and 14.71 percent of female respondents reported that surfing internet was sheer wastage of time and it adversely affected their research work and study.

Table 6: Effect of Surfing Internet on Research/Studies

Effect on Research	Male		Female	
	No.	%age	No.	%age
Adverse Effect	34	25.76	10	14.71
Positive Effect	98	74.24	58	85.29
chi-square value	3.19			

Source: Author's Calculation

Frequency of help by the Internet in Research/Studies:

The respondents were asked the frequency of help rendered by the internet in their research work and studies in terms of 'always', 'sometimes' and 'never'. These frequencies were given score in the order of 3, 2 and 1 and the mean frequency scores were worked out to assess the overall frequency. The mean frequency scores were compared between male and female respondents with the help of t-test. The results so obtained have been presented in Table 7.

Table 7: Frequency of Help by the Internet for Research/Studies

Topics	Male		Female		t-value
	Mean	Overall	Mean	Overall	
Class Assignments	2.15	ST	2.47	ST	4.25**
Searching related literature	2.27	ST	2.59	ST	4.30**
Preparing synopsis	2.18	ST	1.97	ST	2.61**
Developing hypotheses	1.96	ST	1.88	ST	1.10
Searching appropriate statistical tools	2.02	ST	2.00	ST	0.25
Structuring of data collection tool	2.20	ST	2.82	A	1.96*
Analysis of data	2.55	A	2.15	ST	1.19
Others	1.96	ST	1.91	ST	0.90

Source: Author's Calculation

The table clearly indicated that for most of the topics, surfing internet helped the students for sometimes. In case of male students internet helped the students in research work/studies to the extent of sometimes in case of class assignments, searching related literature, preparing synopsis, developing hypotheses, searching appropriate statistical tools, structuring of data collection tool, while the internet always helped the researchers for the analysis of the data.

In case of female students internet helped the students in research work/studies to the extent of sometimes in case of class assignments, searching related literature, preparing synopsis, developing hypotheses, searching appropriate statistical tools and analysis of the data, while the internet always helped the researchers for structuring of data collection tool.

The analysis showed that significantly higher frequency score was there for class assignments /projects, searching related literature and structuring of data collection tool among female respondents as compared to that among male respondents. On the other hand, significantly higher frequency score for preparing synopsis was there among male respondents as compared to that among female respondents.

Time Spent on Internet for Research/Study Topics:

Time spent on internet for different topics related to the research/study by the respondents was recorded as hours per week. The results have been shown in Table 8.

It is clear from the table that the highest time spent was 3.29 hours by the male respondents for structuring of data collection tool, followed by 2.88 hours for searching related literature and 2.72 hours for class assignment/project. The lowest time spent was 1.29 hours by the male respondents for developing hypotheses, followed by 1.57 hours for analysis of data, 1.60 hours for preparing synopsis and 1.76 hours for searching appropriate statistical tools. The highest time spent by female respondents came to be 3.65 hours for structuring of data collection tool, followed by 3.12 hours for searching related literature and 2.76 hours for class assignment/project. The lowest time spent by female respondents came

Table 8: Time spent on Internet for Different Topics related to Research/Studies (hours/week)

Topics	Male		Female		t-value
	Mean	SD	Mean	SD	
Class Assignments	2.72	0.87	2.76	0.85	0.37
Searching related literature	2.88	0.99	3.12	1.00	1.62
To prepare synopsis	1.60	0.63	1.71	0.68	1.06
To develop hypotheses	1.29	0.60	1.40	0.93	0.99
Searching appropriate statistical tools	1.76	0.96	2.07	1.17	2.01*
Structuring of data collection tool	3.29	1.38	3.65	1.48	1.69
Analysis of data	1.57	0.95	1.63	0.92	0.47
Others	1.23	0.54	1.15	0.61	0.94

Source: Author's Calculation

to be 1.40 hours for developing hypotheses, followed by 1.63 hours for analysis of data, 1.71 hours for preparing synopsis and 2.07 hours for searching appropriate statistical tools.

The time spent for different topics of research was similar by male and female respondents, except for searching appropriate statistical tools where female researchers devoted higher time as compared to that by the male researchers as indicated by the t-value of 2.01. Therefore, the analysis revealed that structuring of data collection tool, searching related literature and preparing class assignments were the priority topics for the male as well as female researchers.

SUMMARY:

- The analysis revealed that the research scholars were operating with 2 e-mail accounts.
- A similar pattern of timings of surfing internet was observed among male and female respondents, except during night, where significantly higher proportion of male respondents used to surf internet as compared to the female respondents.
- Both male and female respondents used to surf internet almost daily.
- The highest proportion of respondents used to surf internet for 2 hours in one go, followed by one hour, while none of them used to surf internet for more than 3 hours in one go.
- The highest time spent was 3.53 hours per week by male respondents on educational sites, followed by 3.50 hours on social networking sites, 2.47 hours on chatting sites, 2.35 hours on entertainment sites and 2.15 hours per week on search engine. The lowest time spent was 0.59 hours per week on religious sites, followed by 1.22 hours on pornographic sites, 1.52 hours on information sites, 1.56 hours on magazine sites and 1.87 hours on e-mail sites.
- The highest time spent was 3.68 hours per week by female respondents on educational sites, followed by 3.59 hours on social networking sites, 2.43 hours on chatting sites, 2.21 hours on search engine and 2.03 hours on entertainment sites. The lowest time spent was 0.76 hours per week on religious sites, followed by

1.19 hours on pornographic sites, 1.34 hours on magazine sites, 1.54 hours on information sites and 1.74 hours on e-mail sites.

- The male and female respondents spent higher time on educational sites, social networking sites and chatting sites as compared to that on religious sites, pornographic sites and magazine sites. Religious sites and pornographic sites were their least preference while educational sites and social networking sites were their most preferred sites.
- Majority of the PAU students were of the opinion that surfing internet exerted positive effect on their research work and study.
- The analysis showed that significantly higher frequency score was there for class assignments /projects, searching related literature and structuring of data collection tool among female respondents as compared to that among male respondents. On the other hand, significantly higher frequency score for preparing synopsis was there among male respondents as compared to that among female respondents.
- The time spent for different topics of research was similar by male and female respondents, except for searching appropriate statistical tools where female researchers devoted higher time as compared to that by the male researchers

Overall, internet came out to be an important source of information for both the male as well as female research scholars. The study also threw light that female research scholars were reluctant to surf internet during night. Significant differences among male and female frequency scores were found in class assignments /projects, searching literature, structuring of data collection tools and preparing synopsis. Time spent for searching appropriate statistical tool was also significantly different.

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