

# Gender Discrepancy in Attitude towards the Use of the Internet for Learning among Secondary School Students in Selected Schools in Lagos State, Nigeria

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## Abstract

This study investigated the gender differences in attitude towards the Internet usage among students in three secondary schools located in federal tertiary institutions in Yaba Local Government Area in Nigeria. The descriptive survey research method was adopted for the study. A sample of 450 students was randomly selected from the three secondary schools. One intact arm was selected from senior secondary one (SS1) to senior secondary three (SS3) in each of the three secondary schools. Of the 450 copies of questionnaire distributed, 355 usable copies of the questionnaire were returned giving an 78% response rate. The data collected were analyzed with frequency tables, graph, percentages and T-test analysis. The study established that the students had positive attitude towards Internet use and there was no significant difference in male and female attitude towards the use of Internet for learning. It was therefore recommended that the management boards and the parents-teachers' associations in the schools studied should encourage the students to use the Internet for learning by connecting the schools and the school libraries to the Internet.

**Keywords:** Internet, E-book utilization, secondary schools, gender discrepancy, Lagos State

## Introduction

The Internet is a major source of global exposure today. The adoption of Internet technologies is high among young adolescents and Internet use is the norm for contemporary youths (Levin and Arafeh, 2002). Research reports revealed that young people are one of the most savvy and connected age groups. A survey by the Pew Internet and American Life Project revealed that seventy-eight per cent of children between the ages of 12 and 17 go online (Levin and Arafeh, 2002). Another survey indicates that nearly 94 per cent of 12 to 17 year olds had used the Internet for school or research (Lenhart, Simon, and Graziano, 2001).

Indeed, the Internet is a functional tool that has impacted learning process and which some believe will equip 21st century students to effectively participate in the workplace (Thanuskodi, 2013). It provides access to unlimited information resources and services such as electronic mail, online chat, file transfer, the interlinked Web pages, online library catalogues, bibliographic databases and other academic resources in text, graphics, and imagery on the World Wide Web (Agil and Ahmad, 2011, Asan and Koca, 2006). According to Iwighrehweta and Igere (2014) the Internet is a powerful and efficient tool for searching, retrieving, and disseminating information, with a significant impact on teaching, research and learning processes worldwide. In Istanbul, Yilma and Orhan (2010) investigated educational usage of Internet and learning approaches among high school students the results revealed that almost half (46.4%) of the students use the Internet every day. Another study on the Internet usage pattern among teenagers in Turkey indicated that most teenagers (76.3%) were at least weekly users of the Internet (Gencer and Koc, 2012)

The debates on the link between Internet usage and gender have attracted divergent views from educators, sociologists, researchers and scholars. The term gender according to experts connotes varied socially and culturally constructed roles that men and women play in their society. According to United Nations Development Programme (1986:258) gender refers to:

The qualities associated with men and women that are socially and culturally, than biologically determined. Gender includes the way in which society differentiates appropriate behavior and access to power for women and men. Although the details vary from society to society and change over time, gender relations tend to include a strong element of inequality between women and men and are strongly influenced by ideology.

Literature has widely identified gender as a possible factor influencing Internet technology use all over the world. According to Heimrath and Goulding (2001) Internet is perceived as not gender-neutral. Therefore many studies have been conducted globally to investigate gender gap in the Internet usage. Bruce (2000) confirmed statistically significant gender gaps on the use of the Internet. To a large extent, male and female do use the Internet for different purposes (Teo and Lim, 1997). In Singapore, a survey indicated that internet users are predominantly males with females comprising only about 11 per cent of Internet users. The study also found that

females and males engage in different activities on the Internet. While males are more into downloading and purchasing activities, females spend more time on the Internet for messaging activities and promotional campaigns.

A study on gender differences in beliefs, attitudes, and behavior towards web advertising reported that males are likely to browse the Internet for functional and entertainment purpose while females are more into shopping reasons (Wolin and Kargaonkar, 2003). In Isreal, Nachmias, Mioduser and Shemla (2000) conducted a study on Internet usage among high school students and found that gender differences exist in Internet use. The result indicates that more boys are using the Internet extensively than girls. Another study carried out in Northern Virginia Community College (2000) also indicated that male students spend more time in browsing the Internet than females. Zhang (2004) showed that gender and age affect the attitudes of students toward the usefulness and enjoyment derived in the use of the Internet. In her study, Bimber (2000) affirmed that women are less likely than men to be frequent users (i.e. daily) of the Internet. The study concluded that men are more intense users of the Internet than women (Bimber, 2000). Furthermore, Bimber (2000) observed that gender differences exist due to socioeconomic status, in which men and women may differ in technology adaptation which in return influences computers and Internet access and usage.

In Malaysia, Munusamy and Ismail (2009) examined influence of gender role on internet usage pattern at home among academicians. The findings revealed that although both genders have equal access to Internet, there is a slight variation in the usage pattern at home between men and women due to the influence of gender role. Similarity in access for both genders may be as a result of high exposure to the technology through their educational experience.

In United States, a longitudinal study conducted by Pew Internet and American life project has shown that women appreciate especially the communicative features of the Internet, while men are more likely to use online transactions, get information, play games and use entertainment (Fallows, 2005). Winker (2005) in the study of gender and Internet reported differential usage pattern in terms of frequency of use. While women are in the categories of moderate user, men use the Internet more frequently and for long hours.

In Imo State, Nigeria, Anunobi and Mbagwu (2009) reported that females visit the Internet less frequently but stay longer when they do. Hupfer and Detlor (2006) examined gender and Web information seeking. The study found difference in male and female web searching. Whereas men tend to focus on information about investment, purchase and personal interests, women were more into e-mailing, chatting and searching for reference materials about medical and government information. Hupfer and Detlor's (2006) finding is similar to Garbarino and Strahilevitz's (2004) work which concludes that females perceived Internet as a tool of maintaining social values.

Nonetheless, Luan, Fung and Atan (2008) examined the gender disparity in usage and attitudes towards the Internet among student teachers in a public Malaysian university. The study found no gender difference in Internet usage; the female student teachers were found to spend as much time using the Internet as their male counterparts. The study by Alshankity and Alshawi (2008) which examined the gender differences in Internet usage among faculty members in Saudi Arabia did not see a significant gender difference in the overall Internet usage. Similarly, Shaw and Gant (2002) explored gender gap in the Internet use. The findings showed that no gender differences were detected when participants were involved in various online activities such as synchronous and dyadic chat sessions. Odell, Korgen, Schumacher and Delucchi, (2000) examined Internet use among female and male college students. The findings affirmed that gender was not a significant variable in terms of Internet use.

Studies on gender differences on Internet are still a new dimension especially within the context of information search processes (Kim, Lehto and Morrison, 2007). Although there are studies in the literature that report gender differences in attitude, usage level, and experiences in the use of the Internet by different groups, there appears to be scanty empirical research on influence of gender on Internet use among secondary school students in Lagos State, Nigeria. This study is therefore significant because it will generate a better understanding of gender disparity in the context of Internet usage in Nigerian educational institutions. Gender disparity in Internet access and usage have significant implications because groups that have inadequate access and lower usage rates risk being excluded from educational and job opportunities as well as losing political influence as the Internet is increasingly becoming important to how people live and work (Norris, 2001). It is therefore important to explore gender disparity in attitude towards the use of the Internet among secondary school students in Lagos State, Nigeria. The main focus of this paper, therefore, is to elucidate the gender differences in secondary school students' use of, and attitudes towards the Internet.

## **RESEARCH METHOD**

The survey was carried out in three secondary schools located in federal institutions in Yaba Local Government Area in Lagos State, Nigeria namely: International School University of Lagos (ISL), Yaba College of Technology Secondary School(YCTSS) and Federal College of Education (Technical) Secondary

School(FCESS). The descriptive survey research method was adopted for the study. It is aimed at eliciting information on gender differences between male and female students in the selected secondary schools. A sample of 450 students was randomly selected from the three secondary schools. One intact arm was selected from senior secondary one (SS1) to senior secondary three (SS3) in each of the three secondary schools. Of the 450 copies of questionnaire distributed, 355 usable copies of the questionnaire were returned giving an 78% response rate. The data collected were analyzed with frequency tables, graph, percentages and T-test analysis.

### Research Questions

Specifically, the following questions were addressed in this study:

- RQ1: What tasks do secondary school students perform using the Internet?
- RQ2: What types of resources do secondary school students access from the Internet?
- RQ3: Do secondary school students' have positive attitude towards the use of the Internet?

### Hypotheses

The study tested the following null hypotheses at 0.05 level of significance

- H01. There is no significant difference in the frequency of use of the Internet between male and female students.
- H02: The difference in attitude of male and female students towards the use of the Internet is not significant.
- H03. There is no significant gender difference between male and female students in tasks performed on the Internet.

### Findings

#### Demographic Characteristics of Respondents

The gender distribution of the respondents shows that the males were 192(54.1%) while the females were 163(45.9%).Majority of the respondents 223 (62.8%) were between the ages of 13 and14 years while 132(37.2%) were 15years and above. The survey showed that majority of the respondents 146(41.0%) were in SS1, 107 (30.0%) of the respondents in SS2 while 102 (29.0%) of the respondents were in SS 3. In terms of subjects offered by the respondents, 161(45.6%) offered science subjects, 113(32.0%) offered art subjects while 81(22.4%) offered business studies subjects.

#### Tasks performed using the Internet

Responses on tasks performed using the Internet is presented on Table 1.

Table 1: Tasks performed using the Internet

Tasks performed using the Internet	FCESS	YCTSS	ISL	Frequency	%
Searching for general information	63	103	73	239	67.3
School projects and assignments	48	62	61	171	48.2
Chatting with friends	26	35	44	105	29.6
Face book	20	35	45	100	28.2
Downloading Music or Pictures	20	35	37	92	25.9
Sending email	15	26	28	69	19.4

Table 1 indicates that 239(67.3%) of the students reported that they use the Internet for searching of general information. This is followed by 171 (48.2%) who use the Internet for school projects and assignments. Only 69 (19.4%) of the students indicated that they use the Internet for sending email. This is consistent with Bowman (2002) findings which reported that students turn to the Internet first, when faced with a question or class assignment. Similarly, Udende and Azeez (2010) study found that 80.8% of the respondents use the internet for academic purpose. The related literature revealed four main motives for Internet use as: information (e.g., searching for information, doing assignments, reading news), communication (e.g., using e-mail, instant messaging), entertainment (e.g., playing games, watching videos), and business (e.g., online shopping, trading) (Koc and Ferneding, 2007).

#### Internet Resources utilized by the Respondents

The details of the responses are presented in Table 2.

Table 2: Internet Resources utilized by the Respondents

Resources	FCESS	YCTSS	ISL	Frequency	%
E-Books	43 (43.0)	90(67.2)	60(49.6)	194	54.6
E-Lecture Notes	22 (22.0)	26(19.4)	27(22.3)	75	21.1
E-Newspapers/ E-Magazines	25 (25.0)	30(22.3)	21(18.1)	73	20.6
Other online resources	7 (7.0)	16(11.9)	11(9.1)	38	10.7
E-Journals	12 (12.0)	19(14.1)	7 (6.0)	37	10.4

Table 2 reveals that majority of the respondents 194(54.6%) use the Internet to download e-books while only 37 (10.4%) download e-journals from the Internet. The use of e-books as learning materials is a new paradigm which is gradually gaining acceptance among students. According to Embong, Noor, Hashim, Ali and Shaari (2012) e-books enhance the learning process and their use give academic, physical and psychological benefits.

### Respondents' attitude towards Internet use

The result of the responses on attitude towards Internet use is presented in Table 3.

Table 3: Mean Responses of students showing their attitude towards Internet use

Statements	ISL	YCTSS	FCESS	Overall Mean	Std. Deviation	Decision
I get current information from the internet	2.74	3.65	3.49	3.28	.916	Agree
I get relevant materials from the internet	2.84	3.59	3.28	3.24	.884	Agree
Internet is an effective tool for learning	2.74	3.63	3.29	3.23	.936	Agree
I enjoy chatting with friends on the internet	2.68	3.38	3.49	3.17	1.037	Agree
It is fun learning with the internet	2.69	3.51	3.14	3.13	.950	Agree
I enjoy reading materials on the internet	2.55	3.47	3.34	3.12	.946	Agree
I do my assignments easily with the internet	2.80	3.40	3.03	3.09	1.001	Agree
My scores are very high when I use the internet	2.41	3.22	3.01	2.89	.936	Agree
I understand my lessons better using materials from the internet	2.37	3.06	2.97	2.80	.930	Agree
Using the internet distracts me from reading my books	2.51	2.51	2.77	2.58	1.003	Agree
I prepare very well for my exams using internet materials	2.24	2.66	2.80	2.56	.947	Agree
Reading on the internet can be very boring	2.57	2.21	2.57	2.44	1.017	Disagree
I hate using the internet for my assignments	2.13	1.93	2.46	2.15	1.096	Disagree
It is time wasting using the internet	2.29	1.88	2.12	2.09	1.000	Disagree
Over all Mean	2.54	3.00	2.98	2.84		Agree

Criterion: 1=strongly disagree; 2=Disagree; 3= Agree; 4=strongly agree

The overall mean score (2.84) in Table 3 shows that the students in the study have positive attitude towards Internet use with majority agreeing on its usefulness. Incidentally, the respondents also agreed that the use of Internet could be a source of distraction from reading their books. However, the students in Yaba College of Technology secondary school with overall mean score of 3.00 and Federal College of Education (Technical) secondary school with overall mean score of 2.98 seems to have more positive attitude towards the use of Internet for learning than the students in International school University of Lagos who had overall mean score of 2.54. The finding is in agreement with Hong, Ridzuan and Kuek (2003) who found out that most students had positive attitudes towards using the internet for learning. The result also corroborates Kumar and Kaur (2005) findings which revealed that above 70% of their respondents feel that the internet is more useful, more preferred, more informative, easy to use and time saving.

Table 4: T-test statistics showing gender difference in frequency of use of internet

Gender	N	Mean	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	P
Male	192	2.30	0.299	0.585	-1.039	353	0.2997	-0.162	<.05
Female	163	2.50							

The results in Table 4 indicates that a significant difference exists between males and females in frequency of use of Internet for learning ( $t = -1.039$ ,  $df = 353$ ,  $P < .05$ ). Since the t test of the analysis is -1.039 which is less than 0.05 significant value it implies that there is significant gender difference in frequency of use of the Internet. The numerical distribution chart (Figure 1) of the respondents' frequency of Internet use shows that more of the males use Internet facilities daily compared to their female counterpart.

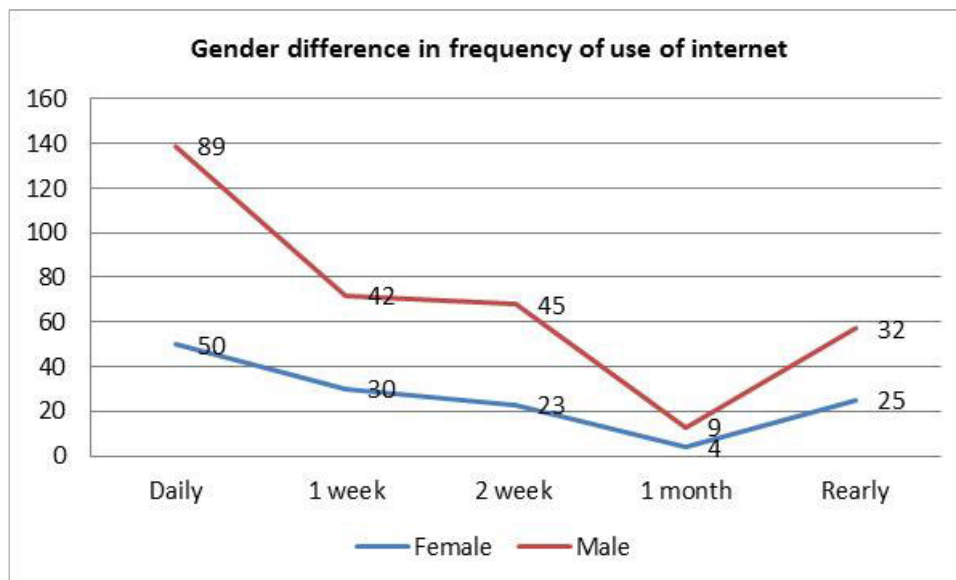


Figure 1: Gender difference in frequency of use of Internet

**Table 5: T-test statistics showing gender difference in attitude towards internet use**

Gender	N	$\bar{X}$	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	P
Male	192	2.40	0.399	0.528	2.7599	353	0.0061	0.146	>.05
Female	163	2.30							

Table 5 presents the T-test analysis of gender difference in attitude of the respondents towards Internet use. It could be observed that the attitudinal mean score ( $\bar{X} = 2.4$  and  $\bar{X} = 2.3$ ) for male and female respectively showing that the average attitude of the female is a little lower than that of the male. However, the t-test value ( $t = 2.7599$ ,  $df=353$  and  $p>.05$ ) showed that there is no significant difference in male and female attitude towards use of Internet. This implies that both male and female have the same attitude towards the use of internet. The hypothesis is thus not rejected. The finding is in agreement with Hong, Ridzuan and Kuek, (2003) who found out that most students had positive attitudes towards using the internet for learning. Kumar and Kaur (2005) conducted a study on internet and its use in the Engineering Colleges of Punjab, their findings revealed that above 70% of respondents feel that the internet is more useful, more preferred, more informative, easy to use, less expensive and time saving.

**Table 6: T-test analysis of gender difference in tasks performed**

Gender	N	Mean	SD	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	P
Male	192	2.86	0.46	2.433	0.12	2.453	353	0.015	0.112	>.05
Female	163	2.75	0.39							

Table 6 presents the T-test analysis of gender difference in tasks performed by the respondents on the Internet. It could be observed that the mean score ( $\bar{X} = 2.86$  and  $\bar{X} = 2.75$ ) for male and female respectively showing that the average tasks performed by the female is a little lower than that of the male. However, the t-test value ( $t = 2.453$ ,  $df=353$  and  $p>.05$ ) showed that there is no significant difference in tasks performed by male and female respondents on the Internet. This implies that both male and female respondents use the internet facilities to perform the same task. The hypothesis is thus not rejected.

### Discussion of Findings

This study examined senior secondary school students' attitude towards the use of the Internet in three secondary schools located in federal tertiary institutions in Yaba Local Government Area in Nigeria based on their self-report. The purpose of this research was to investigate the gender differences in attitude towards the Internet usage among secondary school students. The sample was homogenous in terms of age and prior Internet experience; hence, the effects from these variables towards the results and analyses were considered marginal and not significant.

The findings indicated that the students use the Internet for searching of general information, doing school projects and assignments, sending emails and so on. This is consistent with Koc and Ferneding (2007) study which revealed that college students use the Internet for searching for information, doing assignments and communication. The survey also found that, most of the respondents use the Internet to download e-books. Studies indicate that e-books have been used by young readers (Doty, Popplewell and Byers, 2001; Grimshaw,



Dungworth, McKnight and Morris, 2007). E-books perhaps appeal to young people because they offer a number of advantages over conventional books such as embedded hyperlinks, connecting related information and paragraphs as well as extended utilities including abilities to search and highlight text, make notation, audio and dictionaries (Wilson, Landoni and Gibb, 2003; Rao, 2003).

In terms of attitude towards the use of Internet, the students in the study had positive attitude towards Internet use with majority agreeing on its usefulness. Incidentally, the respondents also agreed that the use of Internet could be a source of distraction from reading their books. This implies that despite the benefits of Internet use, it could also have possible negative impacts on their studies if not used appropriately. Wanajak (2011) in a study on the Internet use and its impact on secondary students in Thailand sounded a note of warning against excessive and unregulated use of Internet among the adolescents. Wanajak (2011) recommended that parents should teach their children appropriate use of the new technologies.

The results also revealed that there is no significant gender differences in tasks both sexes performed using the Internet. This means that regardless of gender, almost all the participants used the Internet mainly for seeking information related to educational purposes. The results concurred well with the results reported by Luan, Fung and Atan (2008) that both genders treated the Internet as a useful learning tool and used it frequently to gather information related to their learning tasks.

However, a significant difference exists between males and females in frequency of use of Internet for learning. The numerical distribution chart of the respondents' frequency of Internet use shows that more of the males use Internet facilities daily compared to their female counterpart. The results of this study were consistent with the earlier findings established by Bimber (2000) that women were less likely to be daily users than men. This could be attributed to unequal gender relationships and disparities which make society to impose excessive workload on girls leaving them with very limited time to use the Internet (Igras, Macieira, Murphy and Lundgren, 2014; Annan-Yao, 2004; Kitto, 1998). The implication according to Anunobi and Mbagwu (2009) is that some of the developmental benefits which could be derived from regular Internet use will elude the women. The results show that the gender gap in Internet usage among the respondents was marginal.

The findings indicated that there was no significant difference in male and female attitude towards use of Internet. However, this finding is in contradiction with previous studies by Liaw and Huang (2003); Sherman, End, Kraan, Cole, Campbell, Birchmeier and Klausner (2000) which indicated that there was a significant gender difference in the attitudes toward the Internet where males were more likely to have more positive feelings toward the technology than females. The result offered some evidence that the gender gap in attitudes towards the Internet was diminishing. There are possibilities that the lack of gender differences in attitude towards Internet use could possibly be attributed to the sample being studied. The participants involved in this study were senior students of secondary schools in public tertiary educational institutions in Nigeria. They were likely to possess some experience in using the Internet. This is particularly so because they had taken the compulsory computer science introductory lessons earlier in the junior secondary school. They were always given assignments that require searching the Internet for information. This Internet exposure prior to the study might have contributed to the similarity in attitude towards Internet use between the genders as observed in the results.

### **Conclusion and Recommendations**

The Internet can act as a catalyst that transforms teaching and learning process in a new way. This study investigated gender differences in attitude towards the Internet usage among secondary school students. Regardless of gender, almost all the participants used the Internet mainly for seeking information related to educational purposes and there was no significant differences in tasks both sexes performed using the Internet. Majority of the respondents download e-books from the Internet. The use of e-books as learning materials is a new paradigm shift in learning process which could be a jumpstart in promoting knowledge society in Nigeria. The respondents had positive attitude towards Internet use but inappropriate use of the Internet could constitute a distraction from their studies. Though more of the male students use Internet facilities daily compared to their female counterpart, the gender gap in Internet usage among the respondents was marginal. The findings indicated that there was no significant difference in male and female attitude towards the use of Internet for learning.

This study only involved senior students from three secondary schools owned by public federal tertiary institutions in Yaba Local Government Area. Therefore, caution must be taken when generalizing any findings for the entire population of secondary school students in Nigeria. Another limitation of this study was the reduced number of participants. Further research is needed to investigate the students from different socioeconomic statuses, age range of students, and students from state owned public secondary schools as the results may likely change. Future research could also compare the Internet usage pattern between private and public secondary schools. Future studies in terms of Internet usage and the impact on academic performance of students by using larger sample is also suggested.

The Internet promises better access to educational resources and long lasting knowledge repository,

therefore the students should be encouraged to make use of this facility to keep abreast with the technology. The school management boards and the parents-teachers' associations can also play important role in encouraging the students to use the Internet for learning by connecting the schools and the school libraries to the Internet. The school management could also include e-books as part of the text books or reference books. This may lead to increase utilization of e-book among students. Despite the benefits of Internet use, survey respondents also reported possible negative impacts of Internet use, therefore the stakeholders- parents, guardians, government machineries and Non- Governmental Organisations must not fold their arms on the issue. They should address some of the social problems associated with the use of the Internet, by initiating a social marketing campaign advising parents to use computer programmes that block children from viewing inappropriate websites. The National Assembly should also criminalise pornography and some online dating sites and allowed the government to block their entry into the national networks.

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