

## Problematic Internet Use Among Al-Azhar University Students in Cairo

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### ABSTRACT

**Background:** the Internet has become an important tool for social interaction, information, and entertainment. Studies have shown that the percentage of students using the Internet has increased dramatically. However, as the Internet has moved into homes, schools, Internet cafes, and businesses, there has been a rapidly growing public awareness of the potential adverse effects arising from excessive, maladaptive or addictive Internet usage, which are a condition also known by terms such as problematic Internet use (PIU), Internet dependence and pathological Internet use.

**Aim of the study:** 1- To determine the general characteristics of Internet users among Al-Azhar under graduate university students in Cairo. 2- To explore the problematic Internet use (PIU) among under graduate university students based on the Internet activities . 3- To investigate the difference between males and females regarding PIU. **Materials and methods:** a cross sectional study was conducted on a sample of 600 undergraduate university students including both scientific and literary collages of Al-Azhar Universities for girls and boys in Cairo. This sample was chosen randomly through on line questionnaire. All participants voluntarily participated in the present study to identify the extent of problematic Internet use among university students. On line self-administered questionnaire that designed to include different items.

**Results:** female students had significantly lower PIU levels on all dimensions (i.e., social comfort, loneliness/depression, diminished impulse control and distraction) than those of males. Furthermore, the results reveal that the students who use internet frequently (3-6 hours/day) and those who use it for entertainment (e.g., game), chat, news (policy or sports news) and social networking purposes have significantly higher PIU levels on all dimensions than the students who use it for less than 3 hours/day or for scientific purposes. Moreover, multiple regression analyses reveal that gender and time spent online daily are significant predictors of PIU and its all dimension except for diminished impulse control only time spent online daily is the predictor. **Conclusion:** males are more at risk than females in terms of problematic Internet use. The effect of duration of daily internet use on cognitions about PIU was found to be significant in all analyses. **Recommendation:** the students should be informed about the association between long use of internet /day and PIU to protect them from negative consequences PIU.

**Keywords:** Problematic Internet use, Internet activities, Time spent online, Gender, Egyptian undergraduate university students.

### INTRODUCTION

The Internet has become the most widely and frequently used media over the last two decades. <sup>(1)</sup> The Internet is a technological tool which makes our life easier and has become an indispensable part of it while its number of user population increases faster each day. <sup>(2)</sup> Also, The Internet provides healthy people the opportunity for a variety of benefits, including social engagement, emotional support, skill development, financial gains, education, and entertainment. <sup>(3)</sup> Furthermore the Internet, as a medium of information and communication, has an important place in social and academic life of university students in many societies. <sup>(4,5)</sup>

It seems that the Internet is widely expanded in today communication world compared to the

electronic media. About 32.7% of the world's population has access to the internet. <sup>(6)</sup>

The internet and mobile phone usage rates are among the highest in the developing world. In Egypt the internet usage is growing intensively. More than 23 million Egyptians used the internet by the end of the year 2010, up from 16.6 million in 2009, the number increased by 28 percent during the year 2010. <sup>(7)</sup>

**By the end of the year 2014**, regarding internet world stats usage and population statistics, about 46.2 millions Egyptians **used the**

**internet** and Egypt is considered one of the Africa top 10 internet countries. <sup>(8)</sup>

In the recent years, Social Networking Site (SNS) started to have great impact on different aspects of our life. For instance, in business, SNS have become one of the main markets to sell products and services as well as to connect companies with their customers. In politics, SNS have become an active stage for political conversation and debate. <sup>(9)</sup> Today, internet has become a device that many students cannot do without because they can read and listen to news, watch video, chat with family and friends, send and receiving mails and do many other things. The issue of internet access may no longer be a problem to undergraduate students, as many mobile phones operator now provide access via mobile phones or modems that can be connected to laptops. With various means of accessing the internet, what exactly do undergraduate do on the internet. <sup>(10)</sup>

However, while the Internet has become a major information and communication medium for the students, the number of unhealthy or excessive internet users among them has also grown remarkably. <sup>(11, 5)</sup> When the person feels more comfortable with his online friends than his real ones, or he cannot stop himself from playing games, gambling, or compulsively surfing, even when it has negative consequences in his life, then he may be using the internet too much. <sup>(7)</sup>

The internet has also become a major concern for parents, because some online activities may seriously distract adolescents from their homework. Families are less likely to spend time together, as youth go off to their rooms to spent time with their devices. <sup>(12)</sup>

Furthermore, Internet activities have also been found to be related to problems with some users' daily functioning and psychosocial well-being, prompting clinicians and social scientists to attempt to understand and address this historically novel phenomenon. <sup>(3)</sup>

Problematic internet use (PIU) is a term recently started to be used to explain problems related to internet use. <sup>(12)</sup> A number of cognitive and behavioral symptoms are associated with PIU. Impulse control problems, obsessions, being online for long hours feelings of guilt related to be online, and being online to get rid of one's problems <sup>(13)</sup> are some symptoms of PIU. Those individuals suffer from some problems in their relationship with society <sup>(14)</sup> and family. <sup>(15)</sup>

Problematic internet use (PIU) in adolescence has been associated with a wide range of adverse psychosocial and mental health conditions such as attention deficit/hyperactivity disorder (ADHD) , psychosomatic symptoms <sup>(16)</sup>, inappropriate dietary behavior and poor diet quality <sup>(17)</sup>, interpersonal problems <sup>(18)</sup>, aggressive behaviors or depressive symptoms <sup>(19, 20)</sup>. Along with these there are also some educational harms like wasting of time , decrease in academic performance, communication problems with peers <sup>(21)</sup>.

University students are considered a high risk group for PIU; possible reasons for this are: (a) students have huge blocks of unstructured time, (b) schools and universities provide free and unlimited access to the Internet, (c) students between 18 and 22 years are for the first time away from parental control without anyone monitoring or censoring what they say or do online, (d) young students experience new problems of adapting to university life and finding new friends, (e) students receive full encouragement from faculty and administrators in using the different applications of the Internet, (f) adolescents are more trained to use the different applications of technological inventions and especially the Internet, (g) students desire to escape university sources of stress resulting from their obligations to pass the exams, to deliver essays and to fulfill their purpose of getting their degrees in the prescribed time with reasonable marks, and finally, (h) students feel that university life is alienated from social activities and when they finish their studies, the job market, with all its uncertainties is a field where they must participate and succeed in getting a job. <sup>(22)</sup>

Estimates of problematic Internet use among university students have been shown to vary between 6% and 19% internationally, depending on the different conceptualizations and measures applied <sup>(23)</sup>

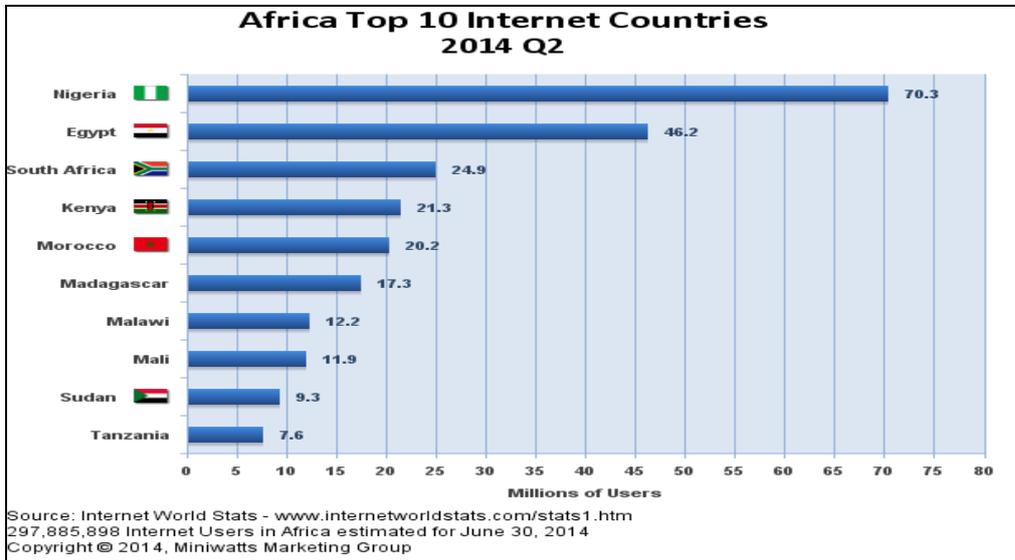
The relationship between psychosocial wellbeing and Internet use is an established area of research interest, with studies on obsessive Internet use suggesting the negative influence of uncontrollable Internet use on health variables such as depression and loneliness. <sup>(24)</sup>

Also report that people obsessed with the Internet are oversensitive to disappointment resulting from interpersonal relationships and

show increased anxiety when communicating with people they do not know well. <sup>(25)</sup>

Most of the research on problematic Internet behavior among university students has been conducted in the USA or in Western Europe. Less is known about this problematic behavior among the students in former communistic

countries of Central, Eastern Europe and in Arab countries. Based on the reviewed literature concerning unhealthy behavior of Internet use, there is a great need for various researches directed towards on problematic internet use and understanding students' the internet use behaviors.



### AIM OF THE STUDY

- 1- To determine the general characteristics of Internet users and the extent of Internet use (and types of use) among Al-Azhar under graduate university students in Cairo.
- 2- To explore the problematic Internet use (PIU) among under graduate university students based on the Internet activities (i.e., educational Internet use, information search, e-mail, chat, entertainment, news reading and social networking)
- 3- To investigate the difference between males and females regarding PIU.

### MATERIALS AND METHODS

**-Study design:** a cross sectional study was carried out to identify the extent of problematic Internet use among university students.

**-The sample:** the study was conducted on a sample of 600 undergraduate university students including both scientific and literary collages of Al-Azhar Universities for girls and boys in Cairo. This sample was chosen randomly through on line questionnaire. All participants voluntarily participated in the present study.

**-Tool of study:** On line self-administered questionnaire that designed to include items about: 1- **Personal data:** Such as age, gender,

marital status, type of study, occupation, duration of Internet use, internet usage frequencies, Internet activities).

**2- Online Cognition Scale (OCS):** This questionnaire is about the thoughts related to the internet. It was developed by **Davis et al.** <sup>(12)</sup> to assess PIU along with its four sub-dimensions (loneliness/depression, diminished impulse control, distraction, and social comfort), the scale is made up of 36 items on a 7-point Likert scale. Some examples of the items are “I get more respect online than in real life;” “I often keep thinking about something “I experienced online well after i have logged off;” and “Using the Internet is a way to forget about the things i must do but really don’t want to do.” This scale aims at indicating the healthy and unhealthy usage levels of the internet. Thus, high scores from the scale indicate that individual’s the internet usage become unhealthy, it may affect their lives negatively and it may create tendency for the internet addiction.

**OCS Dimensions:** the four dimensions of the OCS or PIU are explained as the following:

**Social comfort:** Includes 13 items. It involves an adaptive function of loneliness rather than pathological. According to **Davis et al.** <sup>(12)</sup>,

people who are lonely tend to use the internet for the purpose of social comfort. In other words, the internet is used as a medium to reach out to others and increase a person's social network. Moreover, social comfort involves feelings of safety and security in being a part of that social network.

**Loneliness/depression:** Includes 6 items. It involves feelings of worthlessness and depressive cognitions related to the Internet. According to **Davis et al.** <sup>(12)</sup>, loneliness is strongly associated with PIU and depressive cognitions play an important role in exacerbating symptoms of PIU.

**Diminished impulse control:** Includes 10 items. Diminished impulse control regarding Internet use involves risk taking and dangerous behaviors which may be related to online gambling and engaging illegal activities online (e.g., sending viruses). In short, this dimension is associated with more severe problematic Internet use. <sup>(12)</sup>

**Distraction:** Includes 7 items. Internet distraction involves using the internet as an activity of avoidance. In general, individuals use the internet in order to be distracted from a stressful event, task or stream of thought.

### Statistical Design:

The obtained data were coded, processed and entered on a personal computer. Analysis of data was carried out using SPSS software version 16. Descriptive statistics in the form of mean and standard deviation for quantitative data and frequency of occurrence for qualitative data was done. Chi square test was used to compare the difference between two groups of qualitative data and student t test and ANOVA for that of quantitative data. Linear regression was employed to explore for variables predicting problematic Internet use. Statistical significance was set at  $P < 0.05$ .

### RESULTS

Table (1) shows general characteristics of 600 undergraduate university students aged 18-25 years with mean of age  $21.11 \pm 2.04$ . The majority of students (54.2%) were females, the students distributed among scientific colleges (54.2% of males and 73.5% of females) and literary ones (45.8% and 26.5% respectively). The majority of males (91.3%) and most of females (70.2%) were single while 14.2% of the former and 23.1% of the later were working beside their study. Internet use for

four years or more was the most frequent duration recorded in both groups (58.5% among males and 52.6% among females) in addition, males were more likely to use internet daily as 58.0% of them mentioned that use it for 3-6 hours daily versus 43.1% in females. All the previous differences were statistically significant ( $p$  value  $< 0.05$ ). Regarding internet activities according to the responses of the participants, the main internet activities were games (32.4% & 35.4%) among males and females respectively, social networking (e.g., Face book); 26.2% for males and 22.8% for females, forum (16.0% & 17.5%) for males and females respectively, then chat (11.6% & 10.2%) for males and females respectively, without statistical significant difference.

Concerning to positives of the internet use, both males and females were recorded nearly equal frequencies of all points, (**figure 1**). Noteworthy, cones of internet use were also equal except that it wastes time and money and incorrect relation were higher among males than females (**figure 2**).

Regarding mean score of social comfort PIU among the studied groups using internet, males were having higher mean score than females along most of social comfort PIU scale items, also those of Literary colleges had higher mean score than those of scientific colleges. In addition those who used internet frequently (3-6 hours/day) and those who were using it for news (policy or sports news) had the highest mean score, with statistical significant difference except for type of study (**table 2**).

Regarding mean score of lonely/ Depressed PIU scale (**table 3**). Males were having higher mean score than females, while the mean score of scientific and literary colleges were nearly equal. Those who used internet frequently (3-6 hours/day) had the highest mean score, also those who used internet for entertainment purpose (games, chat, forum, news and social networking) had higher mean score than those using it for scientific purpose, with statistical significant difference except for type of study.

Concerning mean score of impulsive PIU among males and females, males had higher mean than females, also those who used internet frequently (3-6 hours/day) had the highest mean score, with statistically significant differences, while no statistical significant difference as regard type of study and internet activities (**table 4**).

Regarding mean score of distraction PIU among the studied groups using internet, males were having higher mean score than females, in addition those who used internet frequently (3-6 hours/day) and those who were using it for entertainment purpose (games, chat, forum, news and social networking) had higher mean score than those using it for scientific purpose, with statistical significant difference. However, those of scientific colleges had higher mean score than those of literary colleges with no statistical significant difference (**table 5**)

Regarding total mean score of PIU among the studied groups using internet, males were having higher mean score than females, in addition those who used internet frequently (3-6 hours/day) and those who were using it for news (policy or sports news) had the highest mean score, with statistical significant difference. While the mean score of literary colleges was higher than scientific colleges with no statistical significant difference (**table 6**), **By analyzing variables predictors** of problematic Internet use and its dimensions; in regard to social comfort dimension, the variables that significantly influence it were gender ( $\beta=0.92$ ,  $p<.05$ ), duration of daily internet use ( $\beta=0.27$ ,  $p<.05$ ) and internet activities ( $\beta=0.089$ ,  $p<.05$ ).

According to the regression coefficients, the factors such as gender ( $\beta=0.091$ ,  $p<.05$ ) and duration of daily internet use ( $\beta=0.243$ ,  $p<.05$ ) have been found to be positively associated with level of PIU of the students on the Loneliness/depression.

Furthermore, the regression coefficients for the variables such as gender ( $\beta=0.177$ ,  $p<.05$ ) and duration of daily internet use ( $\beta=0.292$ ,  $p<.05$ ) have been found to be positively associated with the level PIU of the students on the distraction dimension.

While, the regression coefficients indicate that duration of daily internet use ( $\beta=0.173$ ,  $p<.05$ ) is the only factor that has positively association with the level PIU of the students on diminished impulse control.

As regard to PIU, the regression coefficients indicate that the factors that significantly influence the PIU of the students are gender ( $\beta=1.4$ ;  $p<.05$ ), and time spent online daily ( $\beta=0.311$ ,  $p<.05$ ) (**table 7**)

## DISCUSSION

The purpose of the study was to investigate whether there are any differences in the

Egyptian undergraduate university students' levels of PIU on different dimensions according to the Internet activities, gender, type of study and internet use by time of day. Additionally, the study investigated some predictors of PIU and its different dimensions among the Egyptian undergraduate university students.

In this study problematic internet use and its sub-dimensions of social support, loneliness, depression, decreased impulse control and levels of distraction showed significant variations in term of gender among university students. Male students were found to suffer more from problematic internet use as they had higher scores on the OCS than did females. In addition, males were more likely to use internet daily as 58.0% of them mentioned that use it for 3-6 hours daily versus 43.1% in females with statistical significant difference ( $p$  value  $<0.05$ ). These findings are consistent with the relevant literature.<sup>(25)</sup> Also, **Tsai *et al.***<sup>(26)</sup> found the same results with a sample of first-year university students using different measures. Similarly, **Mithat and Emre**<sup>(27)</sup> reported that gender had a significant effect on cognitions related to PIU. Additionally, this finding is congruent with the prior literature<sup>(28)</sup> which reveals that males are more likely to be involved in PIU than females.

In the present study, by analyzing variables predictors of problematic internet use and its dimensions, it was found that male gender was predictor for PIU and its dimension except for diminished impulse control. This observation corroborates the findings of<sup>(26)</sup> who explained the lower percentage of PIU among female college students by the fact that they often receive more family supervision than males, preventing them from spending as much time as men on the Internet.

Other possible interpretations of this data are that in comparison to male students, female students have better communication skills, or that male students prefer the internet to face-to-face communication.

On the other hand,<sup>(29)</sup> did not find any significant relation between gender and problematic Internet use. Similarly,<sup>(30)</sup> reported that a gender effect was not found in a sample of college students, also, in a sample of adolescents.<sup>(31)</sup> Moreover, amongst junior college students did not find any gender difference on Problematic Internet Use. Therefore, insignificant results in gender

literature may be explained by the effects of sample characteristics and cultural values.<sup>(32)</sup>

The present study found that the Literary colleges, were more likely to suffer more from problematic internet use than scientific colleges as those of literary colleges had higher mean score of PIU and in its dimension except for loneliness/depression and distraction subscale, but with no statistical significant difference. In addition, the regression coefficients indicate that type of study does not significantly influence the PIU of the students on any of the dimensions.

On the contrary, **Niemz et al.**<sup>(23)</sup>, distributed an internet survey to 371 college students in the United Kingdom and results revealed that the hard science group (computing, chemistry, physics, and engineering) scored significantly higher on the PIU ( $p < .01$ ) than the soft science students (psychology and social sciences, law, and business studies).

Therefore, this difference in the present study may be attributed to the effect of sample characteristics as most of scientific colleges were females.

Beyond the effects of gender and type of study, the effect of time spent online daily was also found to be significant. When the duration of Internet use increased, individuals had higher scores on the OCS. In other words, individuals who used Internet for longer durations (3-6 hours/day) felt more lonely, depressive, and distracted. By analyzing variables predictors of problematic Internet use and its dimensions, duration of daily internet use has been found to be positively associated with level of PIU and its dimension<sup>(28)</sup> found the same result, accordingly, **Armstrong et al.**<sup>(33)</sup>, stated that heavy users (those who use the Internet more than four hours each day) have a tendency to escape their problems by spending time online. Someone with an Internet addiction or problems with Internet use is expected to use Internet longer than his/her counterparts with no problematic internet use. This can be the cause or the result, or there might be a two way interaction between them. Future research should address that issue.

In another study, **van der Aa et al.**<sup>(34)</sup> revealed that time spent online affected psychological well-being through the effect of compulsive internet use.

In the current study, the students who use the Internet with higher frequencies for entertainment (e.g., game, chat, forum and

social networking) and reading news (either policy or sports news) are more likely to have problems related to social comfort, loneliness/depression, distraction and diminished impulse control; as the mean score of PIU and its subscales among the studied students, those who were using it for these purpose had the higher mean scores, than those using it for scientific purpose, with statistical significant difference except for impulsive PIU. However, the regression coefficients indicate that this factor not significantly influence the PIU of the students except for social comfort subscale.

Similar to the findings of this study the related literature<sup>(35, 36)</sup> revealed that undergraduate problematic Internet users were more likely to use real-time interactive activities such as chat and online games. Additionally, these findings of this study are consistent with the findings of prior studies<sup>(37)</sup> which indicate that social use of the Internet may result in problematic Internet use.

Thus, it can be stated that the students who use the internet for chat, entertainment, and social networking activities are more likely to feel lonely and they get involved in such Internet activities for the purpose of social comfort which includes feelings of safety and security in being a part of that social network. According to **Kim et al.**<sup>(38)</sup>, such negative outcomes were expected to isolate individuals from healthy social activities and lead them into more loneliness. In addition, the students who use the Internet for chat, entertainment, and social networking activities can be more likely to have symptoms of PIU related to the dimension of diminished impulse control that involves risk taking activities such as online gambling<sup>(12)</sup>. Additionally, the students who use the internet for chat, entertainment (e.g., game) and social networking activities can be more likely to have symptoms of PIU related to the dimension of distraction which involves using the Internet as a tool of avoidance of a stressful event, task or stream of thought.

**Caplan's**<sup>(37)</sup> study reveals that preference for online social interaction is a significant positive predictor of compulsive Internet use, and participants who prefer online social interaction consider computer mediated communication a functional alternative to their face to face interactions.

## CONCLUSION

This study concluded that males are more at risk than females in terms of problematic Internet use. The effect of duration of daily internet use on cognitions about PIU was found to be significant in all analyses. Gender, time spent online, were significantly predictors of PIU. Internet was used by the university students to cope with stress by avoiding cognitive tasks and engaging in activities with the goal of distraction.

#### Limitations

In this study, used online data collection, which resulted in a low response rate and a significantly higher portion of female students in the final sample. Future research should address these limitations. Participants were Junior college students the majority of them from Science colleges. Another limitation of the study is that it was carried out only in one university with no consideration of the socio-economic conditions of the participants. It would be appropriate to conduct quantitative and qualitative studies with a larger and more heterogeneous sample.

#### RECOMMENDATION

Seminars, conferences and activities could be organized to highlight the negative consequences of problematic internet use (PIU). The uses of internet for chat, entertainment (e.g., game) and social networking purposes can be considered as risky activities for students. Internet usage should be replaced by healthy activities like practicing yoga, exercising, meditation joining some team sports. Counseling to help the university students to learn social skills and healthier ways of coping with uncomfortable emotions, such as stress, anxiety, or depression. On the other hand, students who manifest a high degree of PIU could be treated by cognitive behavioral therapy provided by psychological consultants working in counseling and guidance centers. Cognitive-behavioral therapy can help to stop compulsive internet behaviors change the perceptions regarding Internet, smart phone, and computer use. As regard to the gender issue, this current study cannot highlight other factors that influence the higher PIU levels of the male students and lower PIU levels of the female students. The students should be informed about the association between heavy use of internet /day and PIU to protect them from negative consequences PIU.

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**Table (1): Characteristics of study population**

<b>Studied groups Variables</b>	<b>Male (No=275 45.8%)</b>		<b>Female (No=325 54.2%)</b>		<b>Total</b>	<b>Sig. test P- value</b>
<b>Age :</b> Range Mean $\pm$ SD	18 – 25 years 20.2 $\pm$ 1.9		18 – 25 years 22 $\pm$ 1.8		18 – 25 years 21.1 $\pm$ 2.04	t-test=2.6 p=.01
<b>Type of study:</b> -Scientific colleges -Literary colleges	149 126	54.2% 45.8%	239 86	73.5% 26.5%	388 (64.7%) 212 (35.3%)	X <sup>2</sup> = 24.4 p =0.000*
<b>Marital status:</b> -Single - Married -Divorced	251 18 6	91.3% 6.5% 2.2%	228 80 17	70.2% 24.6% 5.2%	479 (79.8%) 98 (16.3%) 23 (3.9%)	X <sup>2</sup> =44.2 p =0.000*
<b>Working:</b> -Study -Study and work	236 39	85.8% 14.2%	250 75	76.9% 23.1%	486 (81.0%) 114 (19.0%)	X <sup>2</sup> =8.8 p =0.013*
<b>Duration of internet use:</b> - $\leq$ 1 year -2 to 3 years - $\geq$ 4years	14 100 161	5.1% 36.4% 58.5%	26 128 171	8.0% 39.4% 52.6%	40 (6.7%) 228 (38.0%) 332 (55.3%)	X <sup>2</sup> =9.6 p =0.047
<b>Daily internet hours</b> -less than 1 hour -1-3 hours -3-6 hours	14 101 159	5.1% 36.9% 58.0%	31 154 140	9.5% 47.4% 43.1	45 (7.5%) 255 (42.6%) 300 (49.9%)	X <sup>2</sup> =14.4 p =0.001*
<b>Internet activities:</b> -Games -chat -Forum -News (policy & sports) -social (face book) -scientific purpose	89 32 44 27 72 11	32.4% 11.6% 16.0% 9.8% 26.2% 4.0%	115 33 57 22 74 24	35.4% 10.2% 17.5% 6.8% 22.8% 7.3%	204 (34.0%) 65 (10.8%) 101 (16.8%) 49 (8.2%) 146 (24.4%) 35 (5.8%)	X <sup>2</sup> =10.3 p =0.1

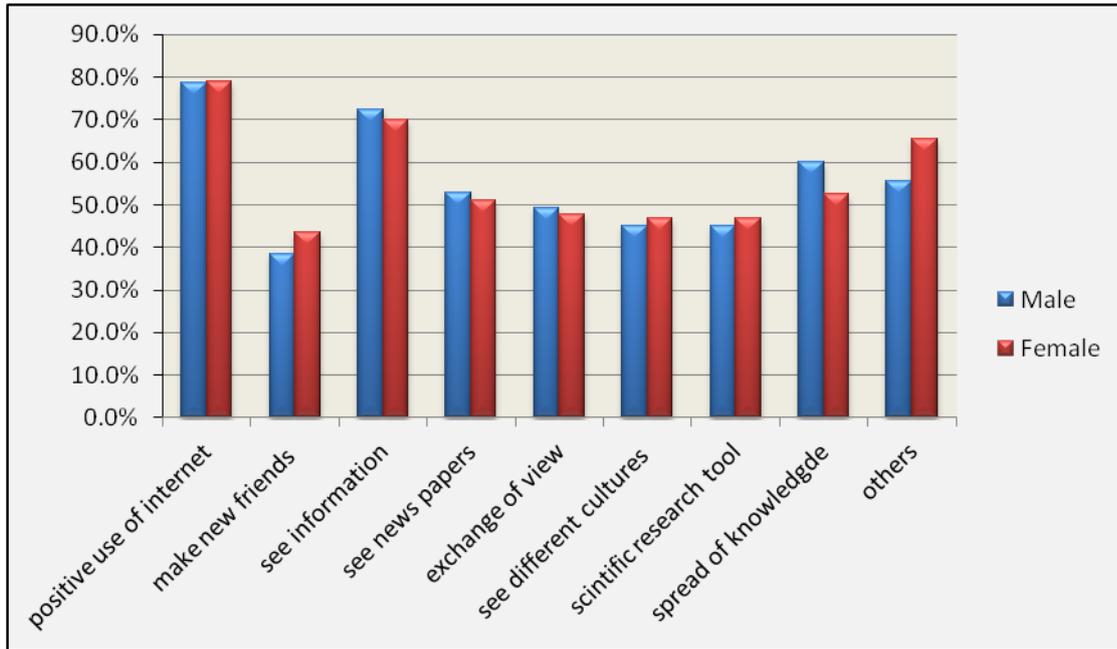


Figure (1): The Positives of Using Internet among the Studied Groups

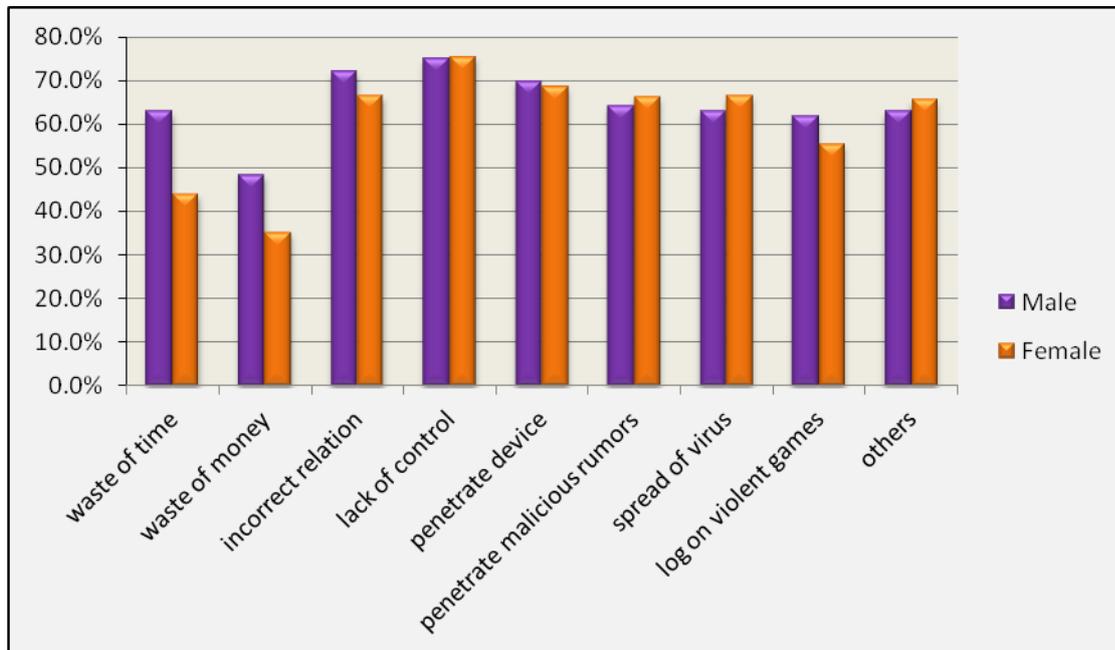


Figure (2): The Cones of Using Internet among the Studied Groups

**Table (2): Mean difference of Social Comfort according to gender, type of study, daily internet use and internet activities**

<b>Social Comfort</b> <b>Variables</b>	<b>Mean <math>\pm</math>SD</b>	<b>Test of significance</b>	<b>p-value</b>
<b>Gender</b> Male Female	47.4 $\pm$ 14.4 42.7 $\pm$ 14.02	t-test=4	0.000*
<b>Type of study</b> -Scientific colleges -Literary colleges	44.2 $\pm$ 14 46.1 $\pm$ 15	t-test=1.5	0.1
<b>Duration of daily internet use</b> -less than 1 hour -1-3 hours -3-6 hours	32.9 $\pm$ 13.8 42.8 $\pm$ 12.9 48.4 $\pm$ 14.3	ANOVA F=30	0.000*
<b>Internet activities:</b> -Games -chat -Forum -News (policy & sports) -social (face book) -scientific purpose	42.6 $\pm$ 14.7 44.1 $\pm$ 13.3 44.5 $\pm$ 14.5 52 $\pm$ 12.3 45.7 $\pm$ 12.9 41.4 $\pm$ 7.9	ANOVA F=5.7	0.000*

**Table (3): Mean difference of Lonely/Depressed PIU according to gender, type of study, daily internet use and internet activities**

<b>Lonely/Depression</b> <b>Variables</b>	<b>Mean <math>\pm</math>SD</b>	<b>Test of significance</b>	<b>p-value</b>
<b>Gender</b> Male Female	39.0 $\pm$ 10.5 34.0 $\pm$ 10	t-test=3.1	0.002*
<b>Type of study</b> -Scientific colleges -Literary colleges	23.7 $\pm$ 6.7 23.04 $\pm$ 7.3	t-test=1	0.3
<b>Duration of daily internet use</b> -less than 1 hour -1-3 hours -3-6 hours	19.2 $\pm$ 6.2 22.2 $\pm$ 7.3 25.1 $\pm$ 6.2	ANOVA F=22.7	0.000*
<b>Internet activities:</b> -Games -chat -Forum -News (policy & sports) -social (face book) -scientific purpose	23 $\pm$ 6.9 22.6 $\pm$ 5.9 23.4 $\pm$ 7.2 23 $\pm$ 5.2 23.8 $\pm$ 7.3 19.6 $\pm$ 7.3	ANOVA F=3.6	0.002*

**Table (4): Mean difference of Impulsive PIU according to gender, type of study, daily internet use and internet activities**

<b>Diminished Impulsive control</b> <b>Variables</b>	<b>Mean <math>\pm</math>SD</b>	<b>Test of significance</b>	<b>p-value</b>
<b>Gender</b> - Male - Female	24.4 $\pm$ 6.6 22.6 $\pm$ 1.1	t-test=6	0.000*
<b>Type of study</b> -Scientific colleges -Literary colleges	35.9 $\pm$ 10.2 36.9 $\pm$ 11.2	t-test=1.04	0.3
<b>Duration of daily internet use</b> -less than 1 hour -1-3 hours -3-6 hours	25.6 $\pm$ 11.8 34.8 $\pm$ 8.7 39 $\pm$ 10.5	ANOVA F=40	0.000*
<b>Internet activities:</b> -Games -chat -Forum -News (policy &sports) -social (face book) -scientific purpose	36.1 $\pm$ 11 35.3 $\pm$ 8.7 36 $\pm$ 11 40 $\pm$ 7.4 36.1 $\pm$ 10.2 32.3 $\pm$ 10.9	ANOVA F=2.07	0.07

**Table (5): Mean difference of Distraction PIU according to gender, type of study, daily internet use and internet activities**

<b>Distraction</b> <b>Variables</b>	<b>Mean <math>\pm</math>SD</b>	<b>Test of significance</b>	<b>p-value</b>
<b>Gender</b> Male Female	26.8 $\pm$ 9.9 24.9 $\pm$ 9.3	t-test=2.3	0.02*
<b>Type of study</b> -Scientific colleges -Literary colleges	26.1 $\pm$ 9.2 25.4 $\pm$ 10.4	t-test=0.8	0.4
<b>Duration of daily internet use</b> -less than 1 hour -1-3 hours -3-6 hours	21.7 $\pm$ 7.6 24.4 $\pm$ 7.9 27.7 $\pm$ 9.8	ANOVA F=12.8	0.000*
<b>Internet activities:</b> -Games -chat -Forum -News (policy &sports) -social (face book) -scientific purpose	25.8 $\pm$ 9.5 24.8 $\pm$ 8.6 24.2 $\pm$ 9.1 23.3 $\pm$ 7.5 27.4 $\pm$ 10.2 17.9 $\pm$ 6.4	ANOVA F=5.3	0.002*

**Table (6): Mean difference of total score of PIU according to gender, type of study, daily internet use and internet activities**

<b>PIU</b> <b>Variables</b>	<b>Mean <math>\pm</math>SD</b>	<b>Test of significance</b>	<b>p-value</b>
<b>Gender</b> - Male - Female	137.6 $\pm$ 32.9 124.3 $\pm$ 33	t-test=4.9	0.000*
<b>Type of study</b> -Scientific colleges -Literary colleges	130 $\pm$ 32 131.4 $\pm$ 36.5	t-test=0.5	0.6
<b>Duration of daily internet use</b> -less than 1 hour -1-3 hours -3-6 hours	99.5 $\pm$ 7.6 124.2 $\pm$ 7.9 140.3 $\pm$ 9.8	ANOVA F=41	0.000*
<b>Internet activities:</b> -Games -chat -Forum -News (policy & sports) -social (face book) -scientific purpose	127.6 $\pm$ 35.7 126.8 $\pm$ 29.2 128.2 $\pm$ 31.8 155.8 $\pm$ 24.5 133 $\pm$ 32.6 111 $\pm$ 23.2	ANOVA F=5.2	0.002*

**Table (7): linear regression analysis for variables predictors PIU**

<b>Predictors</b>	<b>Social comfort</b>		<b>Loneliness/ Depression</b>		<b>Distraction</b>		<b>Diminished impulse control</b>		<b>PIU</b>	
	<b>B</b>	<b>p.</b>	<b><math>\beta</math></b>	<b>p.</b>	<b><math>\beta</math></b>	<b>p.</b>	<b>B</b>	<b>p.</b>	<b><math>\beta</math></b>	<b>p.</b>
<b>Gender</b>	<b>0.92</b>	<b>0.024*</b>	<b>0.091</b>	<b>0.028*</b>	<b>0.177</b>	<b>0.000*</b>	<b>0.08</b>	<b>0.058</b>	<b>1.4</b>	<b>0.0001*</b>
<b>Type of study</b>	<b>0.047</b>	<b>0.244</b>	<b>0.053</b>	<b>0.201</b>	<b>0.017</b>	<b>0.676</b>	<b>0.051</b>	<b>0.223</b>	<b>0.000</b>	<b>0.1</b>
<b>Duration of Daily internet use</b>	<b>0.275</b>	<b>0.000*</b>	<b>0.243</b>	<b>0.000*</b>	<b>0.292</b>	<b>0.000*</b>	<b>0.173</b>	<b>0.000*</b>	<b>0.311</b>	<b>0.000*</b>
<b>Internet activities:</b>	<b>0.089</b>	<b>0.025*</b>	<b>0.054</b>	<b>0.177</b>	<b>0.006</b>	<b>0.869</b>	<b>0.047</b>	<b>0.248</b>	<b>0.066</b>	<b>0.09</b>

\* Significant difference