

Problematic Internet Use Internet Attitude and Internet Behaviour among Researchers

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Abstract

The major objective of this study was to assess the problematic internet use, internet attitude and internet behavior among researchers. The study adopted survey method which was descriptive and associational in nature. Specifically, it tried to analyze the relationship among the problematic internet use, internet attitude and internet behavior and explore the extent to which the researcher in computer science significantly differed in these variables. The sample of the study consisted of computer science professors, software engineers, and research scholars in computer science. One way ANOVA was applied to understand the significant differences among computer science researchers. The results revealed that marital status differences in internet behavior. The result revealed that there is no age difference in PIU and Internet Attitude, and no gender difference in Internet Behavior. Except self-improvement behavior in all internet behavior people aged above 25 years engaged more internet activities. Males were tend to have more PIU, and general internet usage, task facilitation in internet attitude than females. Females were tend to have more negative internet attitudes than males. There was no marital status difference in internet behavior. Singles were tend to have more social comfort (PIU) than married. Married people were found to have more doubt clearing behaviors.

Key words: *Problematic internet usage, Internet attitude, Internet behavior.*

Part of the study was funded by UGC Minor Research Project (F.No.6-79/2013-HRP)

This study was conducted under the Department of Psychology, Periyar University, Salem in 2014-2015 to award M.Phil.Degree.

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Technology and its applications are created to improve the standard of living of human beings. And in many walks of the life they are enjoying the fruits of the technological innovations. Nevertheless, human beings also have abnormal patterns of behavior which results in abuse and misuse of objects, people and situations. They change the inherent purpose of technology, which eventually spoils the personal, professional and social lives of individuals. In this study one of such ill effects of abuse of technology (which is not harmful per se) is comprehensively explored in terms of problematic internet use, internet attitude and internet behavior in relation to individual and internet use factors

Internet

Internet is a global network system of communication interconnected with millions of computers to share the resources, services, information etc. It is simply network of networks which is available with plenty of information about education, business, scientific community, military, social network, entertainment etc. At present, Internet is the largest network in the world connecting millions of computers together. Anyone can access any available information in science, technology, history, culture, medicine almost in all subjects; at the same time one can use it for entertainment, marketing, sports, music etc.

Problematic Internet Use

When the applications of internet are abused it becomes Problematic Internet Use (PIU). There is no standard term or definition for Problematic Internet Use. Some of the terms used like PIU are highlighted below. These uses are defined based on the specific criteria used and causing disturbances in an individual's life. The studies on the negative impact of internet on the individual have been addressed as Problematic Internet Use, Internet Abuse, Internet Addiction, Compulsive internet use and Pathological internet use. All these nomenclature generally agree that it involves preoccupation with using the internet, compulsive internet use, and subjective feelings of inability to limit use, and using the internet to escape or alter negative moods, that is, when down or, anxious. These also refer to patterns of using the internet that result in disturbances in the in the person's life but does not imply a specific disease process or addictive behavior. Rotsztein (2003) did a study on Problem Internet use and locus of control among college students. Their preliminary findings revealed that while men reported more internet-related problems overall, women were more likely to attempt to cut back or stop their Internet use. A significant positive correlation between external locus of control and problematic Internet use was found. Finally, men were seven times more likely to gamble online than women. Chou et al. (2005) examined the research on the social effects of Internet addiction and indicated that maladaptive patterns of internet use constitute behavioral addiction. The study suggested future research agendas, and provided implications for educational psychologists. Kim, LaRose, and Peng (2009) proposed that loneliness as the cause and the effect of problematic internet use. They studied the relationship between internet use and psychological well-being and showed that the social use of internet did not show stronger associations than the entertainment in the key paths leading to compulsive internet use. Nicole-Horstmann et al. (2009) examined that the impact of the internet on deviant behavior and deviant communities. The study showed that internet played in supporting or encouraging deviant behaviors.

Thatcher (2005) proposed a development and psychometric properties of the problematic internet use questionnaire and this research suggested that a small group of people had a tendency to abuse the internet and thereby cause damage to their health, their personal life and/or their professional life. Schoenfeld et al. (2011) examined Prevalence and Correlates of Internet Addiction in Undergraduate Students. This study found that about 0.9% of the sample could be considered addicted to the internet, which was a smaller percentage than found in previous studies. These results showed that the assessment measure used was of extreme importance when diagnosing internet addiction. Ang, Chong, Chye, and Huan (2012) examined adolescents' perceptions of parents' knowledge of their online activities as a moderator of the relationship between loneliness and generalized (PIU). Findings emphasized the importance of prevention and early intervention work with early adolescents and their parents with respect to adolescent loneliness and generalized PIU. Insights from these studies led the course of the present study.

Need for the study

The Internet has today become ubiquitous. It plays a vital role in human-computer interaction. As discussed above internet's role should be studied to help the researchers to understand and regulate their internet behavior and help the mental health researchers to define diagnostic criteria for Internet Addiction. The measurement of users' attitude towards the Internet is necessary to understand to predict the internet behavior. Research has poor evidence and lacks clarity regarding this in Indian society. There is a vacuum in the theoretical framework to measure individual variables in the Indian context, if not in the International context. This demands for evidence based researches on users' attitude towards attitude and behavior and related problematic internet usage.

Objectives

The major objective of this study is to assess the problematic internet use, internet attitude and internet behavior among researchers.

Hypothesis

1. There is a relationship between problematic internet use, internet attitude and internet behavior.
2. Software Professionals significantly differ in problematic internet use, internet attitude and internet behaviors.

Method

The study has adopted survey method which is descriptive and associational in nature. It tries to analyze the relationship among the problematic internet use, internet attitude and internet behavior and explore the extent to which the researchers significantly differ in these variables.

Participants:

The sample of the study consists of computer science professors, software engineers, and research scholars in computer science. They are between 25 years and 36 years of age. Among them 65 are Males and 38 Females. Including 52 Singles and 51 Married people. Since the samples were targeted purposefully, it is an incidental sampling.

Materials:

1. **Online Cognition Scale (OCS):** The 36-item Online Cognition Scale developed by Davis, Flett and Besser (2002) was used to measure the problematic internet usage. The Scale consisted of the following four dimensions viz., *Social Comfort PIU, Lonely/Depressed PIU, Impulsive PIU, and Distraction PIU.*
2. **Attitudes Towards the Internet Scale (ATIS):** It is a 17 item scale developed by Morse et al.(2010) to find out the general attitudes toward internet. These items were measured on a 1 to 7 Likert-type response scale with anchors ranging from strongly disagree to strongly agree (respectively). The ATIS has three subscales, viz., *General Internet Usage, Negative Attitudes and Task Facilitation.*
3. **Research Students' Internet Behaviors Scale (RSIBS):** It is a 26 item scale developed by Nithyanandan and Subramanian (2013) with 8 components viz., *General Search, Downloading, Knowledge Sharing, Shopping, Doubt Clearing, Professional Improvement, Deviant, and Self Improvement.* It measures the research students' research use of internet. Each of the item is evaluated by the respondents on a 7-point Likert scale ranging from strongly disagree to strongly agree (respectively).

Procedure:

The data was collected through the online version of the questionnaires. Separate web pages for this purpose were created and the selected participants were requested to participate in this study. Clear instructions were provided in the web pages and the doubts were cleared through emails, personal phone calls, chatting and through the message boards in the social network sites like Facebook. All the respondents were assured of anonymity and confidentiality of their responses. https://docs.google.com/forms/d/1-4tk1VnpWBAKILeEtpSh1DOfhWFB_lqnKLjF1Lt0Nv4/edit Using the above mentioned link for data collection with the following instructions were given: Please read each questions carefully and select the response that suits you best. There is no right or wrong answer. Please confirm that you answered for all the questions before you click submit. This survey is conducted for research purpose only and the data collected from you will be kept confidential. Thank you.”

Results

Table 1 *t*-test for age groups on problematic internet use, internet attitude and internet behavior

Depended Variables	Age	Mean (SD)	t
Problematic Internet Use (Overall)	Upto 25	132.22 (28.89)	.43
	Above 25	135.27(35.92)	
Social Comfort	Upto 25	47.97(11.90)	.16
	Above 25	48.45(15.09)	
Lonely / Depressed	Upto 25	22.28(6.14)	1.20
	Above 25	23.96(7.02)	
Impulsive	Upto 25	34.31(10.17)	.97
	Above 25	36.36(10.15)	
Distraction	Upto 25	27.67(7.57)	.73
	Above 25	26.51(7.71)	
Internet Attitude (Overall)	Upto 25	72.83(8.05)	1.08
	Above 25	71.22(6.69)	
General Internet Usage	Upto 25	32.92(5.73)	1.00
	Above 25	31.64(6.34)	
Negative Internet attitudes	Upto 25	23.14(4.96)	.86
	Above 25	22.12(6.079)	
Task facilitation	Upto 25	16.78(4.421)	.83
	Above 25	17.46(3.674)	
Internet Behavior (Overall)	Upto 25	111.86(27.93)	4.10*
	Above 25	134.58(26.19)	
General Search for Research	Upto 25	24.89(8.64)	3.61 *
	Above 25	30.55(7.40)	
Downloading	Upto 25	18.53(5.15)	3.41 *
	Above 25	21.97(4.29)	
Knowledge Sharing	Upto 25	21.53(6.74)	3.76*
	Above 25	25.94(5.00)	
Shopping Behaviors	Upto 25	17.06(5.30)	2.88*
	Above 25	20.15(5.12)	
Doubt Clearing Behaviors	Upto 25	8.25(2.88)	4.34*
	Above 25	10.39(2.06)	
Professional Improvement	Upto 25	11.89(4.24)	3.82*
	Above 25	14.97(3.70)	
Deviant Behavior	Upto 25	4.17(1.63)	2.17*
	Above 25	4.88(1.56)	
Self-Improvement	Upto 25	5.56(1.48)	.65
	Above 25	5.73(1.17)	

Note: N=Upto 25= 36; Above 25= 67; *p<0.05

It can be inferred from the table 1 that there exist significant differences ($t=4.10, p<0.05$) between researchers aged below 25 years and above 25 years with regard to their total internet behavior. The analysis of mean scores suggests that researchers who are above 25 years old are found to have more internet behaviors than the 25 years old researchers. It is also found that there exist significant differences ($t=3.61, p<0.05$) between researchers aged below 25 years and above

25 years with regard to their total General Search for Research. The analysis of mean scores suggests that researchers who are above 25 years old are found to have more General Search for Research than the 25 years old researchers. There exist significant differences ($t=3.41, p<0.05$) between researchers aged below 25 years and above 25 years with regard to their total Downloading. The analysis of mean scores suggests that researchers who are above 25 years old are found to have more downloading behavior than the 25 years old researchers. There exist significant differences ($t=3.76, p<0.05$) between researchers aged below 25 years and above 25 years with regard to their total Knowledge Sharing . The analysis of mean scores suggests that researchers who are above 25 years old are found to have more Knowledge Sharing than the 25 years old researchers. There exist significant differences ($t=2.88, p<0.05$) between researchers aged below 25 years and above 25 years with regard to their total Shopping Behaviors . The analysis of mean scores suggests that researchers who are above 25 years old are found to have more Shopping Behaviors than the 25 years old researchers. There exist significant differences ($t=4.34, p<0.05$) between researchers aged below 25 years and above 25 years with regard to their total Doubt Clearing Behaviors. The analysis of mean scores suggests that researchers who are above 25 years old are found to have more Doubt Clearing Behaviors than the 25 years old researchers. There exist significant differences ($t=3.82, p<0.05$) between researchers aged below 25 years and above 25 years with regard to their total Professional Improvement. The analysis of mean scores suggests that researchers who are above 25 years old are found to have more Professional Improvement than the 25 years old researchers. There exist significant differences ($t=2.17, p<0.05$) between researchers aged below 25 years and above 25 years with regard to their Deviant Behavior. The analysis of mean scores suggests that researchers who are above 25 years old are found to have more Deviant Behavior than the 25 years old researchers. The results have further revealed that significant age differences do not exist in problematic internet use and internet attitude but do exist in all of the dimensions of the research related internet use.

Table 2 t-test for gender on problematic internet use, internet attitude and internet behavior

Depended Variables	Gender	Mean (SD)	t
Problematic Internet Use (Overall)	Male	141.03 (34.80)	2.79*
	Female	122.53 (27.94)	
Social Comfort	Male	50.72 (14.90)	2.36*
	Female	44.11 (11.30)	
Lonely / Depressed	Male	24.49 (6.81)	2.25*
	Female	21.45 (6.26)	
Impulsive	Male	37.34 (10.28)	2.26*
	Female	32.7 (9.37)	
Distraction	Male	28.48 (7.49)	2.80*
	Female	24.24 (7.25)	
Internet Attitude (Overall)	Male	72.35 (6.88)	1.04
	Female	70.82 (7.69)	

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General Internet Usage	Male Female	33.03 (5.66) 30.47 (6.64)	2.07*
Negative Internet attitudes	Male Female	21.20 (4.99) 24.66 (6.24)	3.08*
Task facilitation	Male Female	18.12 (3.83) 15.68 (3.68)	3.15*
Internet Behavior (Overall)	Male Female	128.14 (27.63) 124.08 (30.93)	.68
General Search for Research	Male Female	28.77 (7.99) 28.24 (8.83)	.31
Downloading	Male Female	21.29 (4.55) 19.87 (5.32)	1.43
Knowledge Sharing	Male Female	24.83 (5.56) 23.66 (6.74)	.95
Shopping Behaviors	Male Female	19.32 (5.33) 18.63 (5.46)	.62
Doubt Clearing Behaviors	Male Female	9.72 (2.57) 9.50 (2.62)	.42
Professional Improvement	Male Female	13.91 (4.34) 13.87 (3.85)	.04
Deviant Behavior	Male Female	4.65 (1.56) 4.61 (1.71)	.12
Self-Improvement	Male Female	5.65 (1.23) 5.71 (1.39)	-.24

Note: N=Males= 65; Females= 38; *p<0.05

It can be observed from the table there exist significant difference ($t=2.79$, $p<0.05$) between male and female researchers with regard to their overall problematic internet use. The analysis of mean scores suggests that male researchers are found to have more problematic internet behaviors than the female researchers. It has also been revealed that there exist significant differences ($t=2.36$, $p<0.05$) between male and female researchers with regard to their Social Comfort PIU. The analysis of mean scores suggests that male researchers are found to have more Social Comfort PIU than the female researchers. Significant differences ($t=2.25$, $p<0.05$) were also observed between male and female researchers with regard to their Lonely / Depressed PIU. The analysis of mean scores suggests that male researchers are found to have more Lonely / Depressed PIU than the female researchers. There exist significant differences ($t=2.26$, $p<0.05$) between male and female researchers based on gender with regard to their Impulsive PIU. The analysis of mean scores suggests that male researchers are found to have more Impulsive PIU than the female researchers. Significant differences ($t=2.80$, $p<0.05$) were also found between male and female researchers with regard to their Distraction PIU. The analysis of mean scores suggests that male researchers are found to have more Distraction PIU than the female researchers.

In terms of Internet Attitude there exist significant differences ($t=1.04$, $p<0.05$) between male and female researchers. The analysis of mean scores suggests that male researchers are

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found to have more Internet Attitude than the female researchers. There exist significant differences ($t=2.07$, $p<0.05$) between male and female researchers with regard to their General Internet Usage. The analysis of mean scores suggests that male researchers are found to have more General Internet Usage than the female researchers. There exist significant differences ($t=3.15$, $p<0.05$) between male and female researchers with regard to their Task facilitation. The analysis of mean scores suggests that male researchers are found to have more Task facilitation than the female researchers.

Table 3 *t-test for marital status on problematic internet use, internet attitude and internet behavior*

Depended Variables	Marital Status	Mean (SD)	t
Problematic Internet Use (Overall)	Single	139.19 (32.33)	1.53
	Married	129.12(34.26)	
Social Comfort	Single	50.98(13.35)	2.00*
	Married	45.53(14.24)	
Lonely / Depressed	Single	23.60(6.97)	.34
	Married	23.14(6.57)	
Impulsive	Single	36.52(10.02)	.88
	Married	34.75(10.32)	
Distraction	Single	28.10(7.90)	1.59
	Married	25.71(7.25)	
Internet Attitude (Overall)	Single	72.25(7.60)	.65
	Married	71.31(6.796)	
General Internet Usage	Single	32.98(5.2)	1.50
	Married	31.18(6.90)	
Negative Internet attitudes	Single	22.17(4.83)	.54
	Married	22.78(6.52)	
Task facilitation	Single	17.10(4.00)	.32
	Married	17.35(3.91)	
Internet Behavior (Overall)	Single	123.71(29.1)	1.04
	Married	129.63(28.42)	
General Search for Research	Single	27.54(8.62)	1.28
	Married	29.63(7.84)	
Downloading	Single	20.73(5.06)	.07
	Married	20.80(4.72)	
Knowledge Sharing	Single	23.88(6.63)	.87
	Married	24.92(5.34)	
Shopping Behaviors	Single	18.65(5.41)	.78
	Married	19.49(5.34)	
Doubt Clearing Behaviors	Single	9.13(2.95)	2.04*
	Married	10.16(2.03)	
Professional Improvement	Single	13.40(4.44)	1.21
	Married	14.39(3.81)	
Deviant Behavior	Single	4.54(1.62)	.58
	Married	4.73(1.61)	
Self-Improvement	Single	5.83(1.26)	1.25
	Married	5.51(1.30)	

Note: N=Single= 52; Married= 51; * $p<0.05$

It can be observed from the table 3 there exist significant differences ($t=2.00$, $p<0.05$) between single and married researchers with regard to their Social Comfort PIU. The analysis of mean scores suggests that researchers who are single are found to have more Social Comfort PIU than the married researchers. There exist significant differences ($t=2.04$, $p<0.05$) between single and married researchers with regard to their Doubt Clearing Behaviors. The analysis of mean scores suggests that researchers who are single are found to have more Doubt Clearing Behaviors than the married researchers.

Conclusion:

- There is no age difference in PIU and Internet Attitude, and no gender difference in Internet Behavior.
- Except self-improvement behavior in all other internet behaviors researcher aged above 25 years engaged in more internet activities.
- Males are tend to have more PIU, and general internet usage, task facilitation in internet attitude than females.
- Females have more negative internet attitudes than males.
- There is no marital status difference in internet behavior. Singles are tend to have more social comfort PIU than married.
- Married researchers have more doubt clearing behaviors in internet behavior.

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