

Personality Antecedents of Internet Overuse Behaviour Among College Students

Yuvaraj T.[#] and Suresh A.^{§,*}

[#]Manonmaniam Sundaranar University, Tamil Nadu- 627 012, India

[§]DRDO-Defence Institute of Psychological Researches, Delhi - 110 054, India

*E-mail: suresh@dipr.drdo.in

ABSTRACT

Internet has become a ubiquitous feature at home, school and the workplace, as the worldwide population of Internet users has grown rapidly in the recent years. However, its excessive use, especially using it unnecessarily, is found to affect psychological functioning of the users, more particular harm caused among the youngsters. Researchers have found some of the individual factors, particularly the individual personality, that significantly correlate with the both the trend in usage of Internet and its overuse as well. Hence, investigators of this study wanted to examine whether personality is predicting internet overuse behaviour among college going students. For this a sample of 153 college and university students (92 male and 61 female) in the age range of 18 to 25 years were selected non-randomly from 4 different institutions in Tamil Nadu. They were administered with the 120 item IPIP NEO personality inventory and 36 item online cognition scale. Regression analyses were carried out test the hypotheses, using SPSS (version 23.0). Results showed that the personality factors, except openness to experience were found to be predicting internet overuse, with an overall R² value of 0.37. Among the factors, excitement seeking of extraversion, anxiety, anger and depression facets of neuroticism and self-efficacy, orderliness, cautiousness and dutifulness facets of conscientiousness were significantly contributing. To infer, the respondents in the sample, who were highly sensation seekers, anxious and depressive by nature, low on self-efficacy, not being orderly and dutiful tend to overuse internet. Among the personality factors, conscientiousness was a strong predictor of internet overuse in the sample.

Keywords: Internet overuse; Personality; Excitement seeking; Conscientiousness

1. INTRODUCTION

Internet is the network that connects and communicates with the whole world. It has become an essential part of everyday life that it has opened a new domain in social interactivity with the promise of increasing efficiency and worldwide understanding. Though devised primarily to facilitate research, information seeking, interpersonal communication, and business transactions, Internet has become the central focus of people's lives and a temptation that is hard to resist²⁴. With increasing access to the Internet, a constant stream of information and entertainment is always available at our fingertips 24 h a day, 7 days a week. Such ease of use and accessibility has made life without the internet almost unthinkable for most of us⁶.

While many people use the Internet in a limited fashion and in accordance with its intended purposes, others have begun to use it outside its intended purposes without any limitations or restrictions with regards to time and scope. In spite of its ill consequences, people, especially the youngsters continue to overuse internet as it helps them to escape from stress or anxiety provoking situations^{15,35}, procrastination and self-medication, to be away from parents and parental pressure and sometimes to get away from tough university routine, to attain sexual fulfilment and create a persona for themselves³⁴.

At the same time, greater use of internet is also associated with decline in the size of real social circle¹⁷, lower self-esteem and poor life satisfaction^{16,27}. Praterelli²⁷, *et al.* have reported loneliness and depression leading to excessive computer use, leading in turn to more loneliness and depression.

2. ROLE OF PERSONALITY ON INTERNET OVERUSE

Several researchers have emphasised the role of individual differences and cognitive factors in the information seeking process^{1,14,29}. Young³³, one of the pioneers in Internet addiction research has suggested that specific personality traits may predispose an individual to develop problematic internet use. Personality factors such as emotional stability, impulsivity, warmth, reasoning, rule consciousness, perceived attractiveness and social boldness were found to be the significant predictors of internet overuse that begin to influence right from adolescence³. Similarly, high on harm-avoidance^{12,31}, reward dependence, low self-esteem, and low cooperativeness in adolescents are found to be correlated positively with internet addiction^{2,5,7,31,33}. Some of the researches made with the online consumers have linked personal factors such as low self-efficacy³⁰, introspective characteristics and impulsive behaviours³⁶, and the lack of communication skills²⁵ to be contributing to internet addiction. Przepiorka & Blachnio²⁸, found that those with lower positive

orientation, conscientiousness, emotional stability, and openness to experience are related to problematic use of both Internet and Facebook. Similarly, neuroticism, extraversion and trait anxiety are found to be positively correlated with compulsive use of Internet whereas, trait aggression is found to be negatively correlated. Higher scores on Cattell's 16 personality factors for solitary activity seem to be predicting withdrawal from significant real life relationships when there is problematic internet use³³.

Cho⁴, *et al.* proved that problematic Internet users are less novelty seeking than non-problematic Internet users, suggesting that biogenetic temperament patterns may be one of the aetiologies of problematic Internet use. Lee & Jung¹⁹ studied the temperament and character form of personality based on Cloninger's approach, to find out differences among problematic internet users (PIUs) and problematic drug users in Korean adolescents. PIUs showed higher harm avoidance, avoided risk taking behaviours when negative results are expected, exhibited low self-directedness and low cooperativeness. PIUs seem to experience more social insensitiveness and interpersonal problems than adolescents who do not have PIU patterns.

Many researchers have explored the five factor model and technology use in their works^{32,9,26}. Some of these researchers have tried with one or two of the five factors, such as, extraversion or neuroticism, while some others have even explored on the facets of each of these five factors to get an understanding of the micro level personality traits contributing towards online behaviour^{13,22}. Floros¹¹ have found impulsivity as an important discriminating factor between addictive and non-addictive college students of medicine and nursing. Apart from it, sensation seeking and aggression/hostility were also significantly correlating with Internet addiction. Similarly, some of the studies show positive correlation with some traits of psychoticism and neuroticism and negative correlation with some traits of extraversion, agreeableness and conscientiousness although not the factor as a whole^{14,23}.

Floros & Siomos¹⁰ have reviewed various researches on excessive internet use (EIU) and its association with personality traits where, they observed that in most of the researches individuals scoring high on EIU were also scoring high on the basic traits of psychoticism, neuroticism, sensation/excitement seeking and low on extraversion, reward dependence, conscientiousness, agreeableness and self-directedness. Thus, individuals who tend to exhibit psychotic behaviours such as, being more aggressive than assertive, manipulative, dogmatic and tough-minded, those with neurotic tendencies such as poor self-regulation, inner state of tension, anxious, feelings of guilt, low self-esteem and mood swings, those who are strong seekers of excitement and only motivated by short-term gratification of their needs, those who do not readily express themselves to others or simply, those who are less extravert, those who are strongly self-centred, and those who feel superior, while at the same time unsure of themselves and shying away from direct challenges are the ones who tend to overuse internet.

Thus, it is clear that personality has a significant influence on individual's internet behaviour. Having understood this, it

is an essential duty of a researcher to understand the similar effects in the Indian scenario, among the college going students. Knowing this trend will significantly help in proper regulation of the college students and to make them more constructive in their Internet usage. There is a growing dependency on Internet and technology as a whole in day to day life. As Internet has become inseparable part of the human body and mind, identifying the specific personality patterns will greatly help in adding knowledge to the Indian psychological research.

3. METHODOLOGY

This is a correlational research work carried out to find out the personality antecedents of Internet overuse behaviour with the following objectives

- To explore the personality patterns of college students
- To measure their Internet usage behaviour
- To find out whether personality predicts Internet overuse behaviour of these respondents.

3.1 Sample

Participants include 154 college going students (93 male and 61 female) from 4 different Institutions in Tamil Nadu: 50 students from SRM University, Potheri, Kanchipuram; 13 students from Madras Christian College, Tambaram, Chennai; 32 students from St. John's College, Palayamkottai, and 59 students from Periyar University, Salem. They were selected based on convenient sampling procedure. Operational definitions of core variables.

3.2 Personality

Personality consisting of 5 broad factors, such as, neuroticism, extraversion, agreeableness, openness to experience and conscientiousness, with each factor consisting of 6 facets/traits

- Neuroticism: anxiety, anger, depression, self – consciousness, immoderation and vulnerability
- Extraversion: friendliness, gregariousness, assertiveness, activity level, excitement-seeking and cheerfulness
- Agreeableness: trust, morality, altruism, cooperation, modesty and sympathy
- Openness: imagination, artistic interests, emotionality, adventurousness, intellect and liberalism
- Conscientiousness: self-efficacy, orderliness, dutifulness, achievement striving, self-discipline and cautiousness

The five factor model of personality was chosen for the study due to the reason that these traits have been empirically shown to be capable of describing personality¹. The model is a strong and parsimonious description of personality and it has been used extensively in most of the studies explaining personality over Internet behaviours and therefore, will be suitable for discussion of results in line with the results of previous studies.

3.3 Internet Overuse

Internet related behaviours that are considered problematic across following 4 aspects

- Used excessively for social comfort
- Used excessively to overcome feelings of lonely /

depressed

- Used excessively due to impulsivity
- Used excessively as a means of distraction.

3.4 Measures

Personal Information is collected in the beginning. It is two-fold; one involving details about respondents' personal background, such as their age, gender, residential status, and parents' education and occupation. The second involves the respondents' specific and personal usage of internet, such as frequency, purpose and choice of internet usage.

3.5 IPIP Neo Personality Inventory

The IPIP Neo Personality Inventory is a 120 item short form of Neo Personality Inventory, adapted from the 240 item IPIP Neo Personality - Revised version, developed by Goldberg (1999). Many 120 item versions have evolved recently of which, the personality inventory taken for consideration of the present study was developed by Maples²⁰, *et al.* This M5-120 scale was adapted for the reason because it follows both the classic and IRT theory and has most of the items unchanged from the 240 item IPIP version and comprehensible for the respondents. The M5-120 personality measure is a self-report inventory based on the five factor model of personality. Items are scored on a 5 point Likert scale with the score for each item ranging from 1 (Inaccurate) to 5 (Accurate). The overall Cronbach Alpha for the scale is 0.76 and ranges from 0.71 to 0.90 across the five factors. The scale manifests good reliability, substantial convergence with the NEO PI-R, and strong criterion validity and it is openly accessible to the researchers²⁰.

3.6 Online Cognition Scale

The online cognition scale (OCS) was developed and validated by Davis⁸, *et al.* It consists of 36-items that assess 4 facets of problematic Internet use. The assessment yields scores for impulsive problematic Internet use, lonely/depressed problematic Internet use, distraction problematic Internet use, social comfort problematic Internet use, and a total problematic Internet use score. The scale has demonstrated high internal consistency as a total measure of pathological Internet use with an alpha level of 0.94. And for each of its subscales: social comfort = 0.87, loneliness/depression = 0.77, diminished impulse control = 0.84, and distraction = 0.81[8]. Participants are asked to respond to Likert-type items that include statements about the participant's thoughts about the Internet. The statements run on a seven-point scale that ranges from "strongly agree" to "strongly disagree." The ocs has also been validated across various standardised assessments that measure impulsivity, depression, loneliness, procrastination and sensitivity.

3.6.1 Inclusion and Exclusion Criteria

Only College going students, in the age group of 18 yr to 25 yr, who are using Internet at least for the past 6 months were included in this research.

3.6.2 Data Collection Procedure

Participants were approached through the principals

and course teachers. They were gathered in their classroom and the tools were distributed to all of them. The data were collected by directly meeting the students who had participated voluntarily.

4. RESULTS

Analyses were made using the statistical package for social sciences (Version 20). On looking at their scores on the IPIP NEO personality inventory and the online cognition scale, the descriptive distribution of the sample has been given in Table 1.

Table 1. Descriptive details of the scores obtained on the core variables

Variables	Constructs	N	Mean	SD
Personality	Neuroticism	153	69.9	8.7
	Extraversion	153	82.3	11.5
	Openness to experiences	153	75.2	9.6
	Agreeableness	153	76.7	8.5
	Conscientiousness	153	80.5	11.2
Online Cognition	Social comfort	153	46.3	14.4
	Lonely/Depressed	153	21.3	7.2
	Distraction	153	36.4	11.6
	Impulsive	153	25.9	8.6
	Overall problematic internet use	153	129.9	37.4

Scores of the variables are well distributed for the sample and are statistically conducive for testing of the hypothesis. Mean scores indicate that statistically, the sample is average on emotionality, openness and agreeableness, while slightly high on extraversion and conscientiousness. Pearson product moment correlation is then calculated to check for significance of relationship between the personality factors and online cognition. The results are tabulated in Table 2.

Except for openness to experience with impulsive problematic use, there is a significant relationship between all the 5 factors of personality and all the 4 facets of internet overuse and the overall Internet overuse behaviour, thus proving a significant association between personality and Internet overuse in the sample of college students. Among the 5 factors, neuroticism and extraversion have exhibited positive correlation, while the other 3 factors have exhibited negative relationship with Internet overuse, which is in similar lines with some of the previous researchers^{23,28}. However, for the extraversion factor alone there were studies supporting for both positive and negative relationship with Internet overuse, while negative relationship is more substantiated amongst the researchers¹⁰. This contradiction necessitates for further exploration of the results, which may be resolved if the facet scores of extraversion are analysed. For now, with the presence of relationship between the main variables, linear regression analysis is applied to check for significance in prediction of personality over Internet overuse.

Table 2. Correlations between the 5 personality factors and the online cognition scale

Measures	Social comfort	Lonely / depressed	Distraction	Impulsive	Overall
Neuroticism	0.28**	0.35**	0.38**	0.32**	0.36**
Extraversion	0.24**	0.21**	0.19*	0.17*	0.23**
Openness to experiences	-0.18*	-0.21**	-0.21**	-0.16	-0.21**
Agreeableness	-0.26**	-0.23**	-0.27**	-0.22**	-0.28**
Conscientiousness	-0.23**	-0.29**	-0.35**	-0.32**	-0.33**

Note. N = 154, * - $p < 0.05$, ** - $p < 0.01$

Table 3. Linear regression analysis to find out the prediction of personality over internet overuse

Model	Unstandardized coefficients		Standardised coefficients	t
	B	Std. Error	β	
(Constant)	124.9	44.8		2.79
Neuroticism	0.87	0.33	0.20	2.62**
Extraversion	1.34	0.24	0.41	5.59**
Openness to experiences	-0.42	0.28	-0.11	-1.49
Agreeableness	-0.52	0.34	-0.12	-1.56
Conscientiousness	-1.17	0.30	-0.35	-3.96**

R = 0.61, R² = 0.37, $p < 0.01$, F = 17.14, $p < 0.01$, $p < .05^*$, $p < .01^{**}$

Table 4. Linear regression analysis to find out prediction of personality over social comfort PIU

Model	Unstandardized coefficients		Standardised coefficients	t
	B	Std. Error	β	
Extraversion	0.47	0.10	0.38	4.77**
Conscientiousness	-0.33	0.12	-0.26	2.68**
R = 0.52 R ² = 0.27 $p < 0.01$; F = 11.08 $p < 0.01$				
Excitement seeking	1.24	0.44	0.26	2.83**
R = 0.30 R ² = 0.09 $p < 0.05$; F = 2.47 $p < 0.05$				
Self-Efficacy	1.34	0.46	0.25	2.88**
Orderliness	-1.06	0.37	-0.23	2.83**
Dutifulness	-0.91	0.40	-0.20	2.25*
Cautiousness	-0.92	0.36	-0.22	2.55**

R = 0.48, R² = 0.29, $p < 0.01$, F = 7.17, $p < 0.01$, $p < .05^*$, $p < .01^{**}$

The variables were initially checked for assumptions of regression analysis. Kolmogorov-smirnov and shapiro-wilk tests, both showing a non-significant value of 0.10 Indicating that the dependent variable is normally distributed. The correlation values of each of the 5 factors within themselves are less than 0.7 and therefore none of these independent variables exhibit problems of multi-collinearity. Scatter plot of the dependent variable showed that although few of the scores were deviating, none of the residuals were found to be lying outside the expected plot area. The deviating scores actually are the ones that may explain for severe problematic Internet use and hence need to be retained for better understanding.

The regression model derived in Table 3, is indicated by an R² value of 0.37 Which is significant at 0.01 level. In other words, 37 per cent of variation in Internet overuse is explained by personality, which explains a good model fit. B value is significant for neuroticism, extraversion, and conscientiousness. Thus, personality predicts the overall Internet overuse behaviour among college students, with extraversion offering highest contribution followed by conscientiousness and then neuroticism.

Going into further depth of understanding, regression has been carried out for the facet scores of personality and each of the dimensions of the online cognition scale. The reason is that it will help us to know exactly what characteristic of personality explains for what aspect of overuse behaviour as shown in Table 3.

Among the 5 personality factors, extraversion and conscientiousness predicts social comfort piu with R² value explaining for 27 per cent variation ($p < 0.01$). In the case of extraversion facets, the beta value is significant only for excitement seeking ($t = 2.83$, $p < 0.01$). Internet feeds enormous amount of information in much attractive ways that individuals who are vulnerable to excitement tend to get fixated with it. The same result has been previously reported in researches¹⁰.

Scores on the conscientious facets give a prediction of 29 per cent on social comfort. In this, self-efficacy, orderliness, dutifulness and cautiousness facets have a significant beta value. Among the personality factors, conscientiousness contributes greater variation in Internet overuse overall. College students, who are low on self-efficacy, orderliness, dutifulness and cautiousness and also seeking for sensation, thus, tend to overuse Internet for social comfort. Social comfort problematic Internet use taps for the extent of sociability of the respondents, the nature of relationship they develop and the degree of comfort and trust they experience when they are online, which they may not exhibit offline. Henceforth, there is a significant prediction by extraversion and conscientiousness as shown in Table 4.

For the lonely/depressed problematic Internet use dimension, the regression model for personality explains a variation of 30 per cent, which is significant at 0.01

Level. In this, the beta value is significant for neuroticism, extraversion and conscientiousness. Among these 3 factors, the facets of neuroticism explain for the R^2 value of 0.20 Which is statistically significant ($p < 0.01$). Beta value is significant for anxiety and depression, wherein depression exhibits for highest unique contribution. Lonely/depressed piu taps for the respondents' strong attachment to virtual relationships than towards offline relationship, especially during times of loneliness. Hence, individuals with low emotional stability are vulnerable to this dimension.

Although extraversion predicts for lonely/depressed dimension, the R^2 value using the 6 extraversion facets is only 0.06, which is not statistically significant, thus disproving their predictive value for this dimension. This is quite understandable, as the lonely/depressed facet does not explain for the online relationship.

R^2 value for the conscientious facets is 0.21, Which is significant at 0.01 level. In this, the beta value is significant for orderliness and cautiousness and their relationship is negative. Respondents who are less cautious and less orderly, thus, experience high lonely / depressed problematic Internet use as shown in Table 4.

The regression model for distraction problematic Internet use dimension gives an R^2 value of 0.35 which is significant at 0.01 level. Here again, neuroticism, extraversion and conscientiousness facets are having a significant beta value, with conscientiousness being the highest unique contributor ($r = -0.26$).

For the neuroticism facets of personality, the regression model gives 24 per cent predictive value, which is statistically significant ($p < 0.01$) and that beta value is significant for anxiety, anger and depression, with depression being the highest unique contributor. Thus, respondents who are naturally depressive, anxious and angry, tend to overuse Internet as a space to distract themselves from their worries. The R^2 value of 0.08, for the extraversion facets is not statistically significant, although, extraversion, as a single construct was predicting significantly. However, the beta value for excitement seeking alone was significant at 0.01 level, which may be the primary reason for extraversion to be predicting this dimension overall. For conscientious facets of personality, R^2 value of 0.27 was significant at 0.01 level. Here orderliness, dutifulness and cautiousness were having a significant beta values with inverse relationship and cautiousness being the highest unique contributor ($r = -0.24$). Those in the sample, who tend to be less cautious, orderly and dutiful overuse Internet, for the sake of distraction as shown in Table 6.

Impulsive problematic Internet use is predicted by personality with an R^2 value of 0.28 ($p < 0.01$). Beta value shows significance for extraversion and conscientiousness. Hence, regression has been employed for the facets of extraversion and conscientiousness with this dimension of PIU.

The regression model for extraversion does not have a significant R^2 value and therefore, the model is not fit for the facets of extraversion, although extraversion contributes overall for the impulsive problematic Internet use.

Table 5. Linear regression analysis to find out prediction of Personality over Lonely / Depressed PIU

Model	Unstandardized Coefficients		Standardised Coefficients	<i>t</i>
	B	Std. Error	β	
Neuroticism	0.17	0.07	0.207	2.54**
Extraversion	0.23	0.05	0.37	4.81**
Conscientiousness	-0.20	0.06	-0.31	3.25**
R = 0.55 $R^2 = 0.30$ $p < 0.01$; F = 12.43 $p < 0.01$				
Anxiety	0.51	0.17	0.24	2.99**
Depression	0.54	0.18	0.24	2.99**
R = 0.45 $R^2 = 0.20$ $p < 0.01$; F = 6.12 $p < 0.01$				
Orderliness	-0.45	0.19	-0.19	2.37*
Cautiousness	-0.55	0.18	-0.26	3.02**

R = 0.46 $R^2 = 0.21$ $p < 0.01$; F = 6.51 $p < 0.01$

Table 6. Linear regression analysis to find out prediction of personality over distraction PIU

Model	Unstandardized Coefficients		Standardised Coefficients	<i>t</i>
	B	Std. Error	β	
Neuroticism	0.28	0.10	0.21	2.68**
Extraversion	0.37	0.08	0.37	4.96**
Conscientiousness	-0.37	0.09	-0.36	3.98**
R = 0.59 $R^2 = 0.35$ $p < 0.01$; F = 15.95 $p < 0.01$				
Anxiety	0.65	0.27	0.19	2.42*
Anger	0.75	0.32	0.18	2.38*
Depression	1.14	0.29	0.31	3.99**
R = 0.49 $R^2 = 0.24$ $p < 0.01$; F = 7.49 $p < 0.01$				
Excitement Seeking	0.99	0.36	0.26	2.81**
R = 0.27 $R^2 = 0.08$ $p =$ Not significant; F = 1.98 $p =$ Not significant				
Orderliness	-0.85	0.29	-0.23	2.90**
Dutifulness	-0.74	0.32	-0.20	2.35*
Cautiousness	-0.95	0.28	-0.28	3.36**

R = 0.52, $R^2 = 0.27$, $p < 0.01$, F = 8.97, $p < 0.01$

The facets of conscientiousness over impulsive problematic Internet use showed an R^2 value of 0.28 ($p < 0.01$). In this, self-efficacy, orderliness, dutifulness and cautiousness facets have a significant beta value of which orderliness and dutifulness are highly contributing. Thus, the respondents who are low on self-efficacy, less orderly, less dutiful and less cautious are impulsive problematic Internet users.

Table 7. Linear regression analysis to find out prediction of personality over impulsive problematic internet use

Model	Unstandardized coefficients		Standardised coefficients	t
	B	Std. error	β	
Neuroticism	0.16	0.08	0.16	1.91*
Extraversion	0.26	0.06	0.35	4.41**
Conscientiousness	-0.28	0.07	-0.36	3.82**
R = 0.53 R ² = 0.28 p < 0.01; F = 11.16 p < 0.01				
Self-Efficacy	0.83	0.27	0.26	3.10**
Orderliness	-0.81	0.22	-0.30	3.78**
Dutifulness	-0.83	0.23	-0.30	3.56**
Cautiousness	-0.48	0.21	-0.19	2.32*

R = 0.53, R² = 0.28, F = 9.61, p < 0.01

5. DISCUSSION AND CONCLUSION

The present research is carried out to explore the role of personality on Internet overuse behaviour among college going students. The 120 item IPIP NEO Personality Inventory adapted by Maples²⁰, *et al.* and the online cognition scale developed by Davis⁸, *et al.* along with personal information were administered to 153 college students from 4 different institutions in Tamilnadu. The sample consisted of 90 male and 63 female students which were collected non-randomly. Respondents' data were entered in SPSS (version 23) and analysed to test the hypotheses. Pearson product moment correlational analysis resulted in a significant correlation between all the 5 personality factors and all the 4 dimensions of online cognition, except for the relationship between openness to experience and impulsive problematic Internet use. Of these, neuroticism has positive correlation, while the other 3 factors have exhibited negative relationship with overall Internet overuse.

Further, multiple linear regression analysis has been carried out to determine whether personality predicts Internet overuse, leaving out the openness to experience factor alone as it did not correlate significantly. The variables were initially checked for assumptions of regression analysis. Normality was assured using kolmogorov-smirnov and shapiro-wilk tests and homoscedacity was found among the factors of personality. Scatter plot analyses proved all of the residuals lying within the plot area. The regression analysis inferred that except for neuroticism, extraversion and conscientiousness are significantly predicting the dependent variable, thus proving the role of these factors of personality as antecedents for Internet overuse in college students. Extraversion and conscientious had the highest predictive value over Internet overuse. In the case of extraversion, the excitement seeking facet alone was found to be the strong predictor for Internet overuse as is seen in other researches as well¹⁰. This had actually contributed for positive association of extraversion with overall Internet overuse and hence, higher score on extraversion was leading to

high scores on Internet overuse.

In the case of neuroticism, anxiety and depression facets were significantly predicting both the lonely/depressed and distraction PIU dimensions of the online cognition scale and anger predicts distraction PIU alone. Students who are anxious and depressive by nature, tend to overuse Internet to avoid feelings of loneliness and anger by nature as well, to overuse internet to distract themselves from their routine activities, unpleasant feelings and unwanted commitments.

Conscientiousness was predicting all of the dimensions of online cognition. In this, self-efficacy, orderliness, dutifulness and cautiousness facets are the significant predictors across all the dimensions and the overall PIU.

To summarise, personality significantly predicts the internet overuse behaviour among college going students.

6. LIMITATIONS

This research involves studying the college going students who are mostly in the similar age group and similar lifestyle. Hence, the findings arrived from this research may not be generalised to those internet users from varied age group and environmental circumstances. A possible future research is to collect data from varied age groups and varied cultural backgrounds to discover additional connections between personality and internet overuse. Also, since this is a cross sectional research, inferences cannot be drawn regarding the causal order of relationships. And the sample drawn in future research may also be considered using randomisation method.

REFERENCES

1. Al-Samarraie, H.; Eldenfria, A. & Dawoud, H. The impact of personality traits on users' information seeking behavior. *Inf. Proc. Manage.*, 2016, 1–11. doi: 10.1016/j.ipm.2016.08.004
2. Armstrong, L.; Philips, J.; & Sailing, L. Potential determinants of heavier internet usage. *Int. J. Human Comput. Stud.*, 2000, **5**(3), 537-550. doi: 10.1006/ijhc.2000.0400
3. Charlton, J.P. & Danforth, I.D.W. Validating the distinction between computer addiction and engagement: online game playing and personality. *Behav. Inf. Technol.*, 2000, **29**(6), 601–613. doi: 10.1080/01449290903401978
4. Cho, S.C.; Kim, J.W.; Kim, B.N.; Lee, J.H. & Kim, E.H. Biogenetic temperament and character profiles and attention deficit hyperactivity disorder symptoms in Korean adolescents with problematic internet use. *Cyberpsychol. Behav.*, 2008, **11**, 735–737. doi:10.1159/000089660
5. Chou, C. & Hsiao, M.C. Internet addiction usage gratification and pleasure experience: the Taiwan college students case. *Comput. Edu.*, 2000, **35**, 65–80. doi: 10.1016/S0360-1315(00)00019-1
6. Cicekoglu, P.; Durualp, E. & Durualp, E. Evaluation of the level of internet addiction among 6th-8th grade adolescents in terms of various variables. *Eur. J. Res. Edu.*, 2013, 22-28.
7. Davis, R.A. A cognitive behavioral model for pathological

- internet use. *Comput. Human Behav.*, 2001, **17**, 187-195. doi: 10.1016/S0747-5632(00)00041-8
8. Davis, R.A.; Flett, G.L. & Besser, A. Validation of a new scale for measuring problematic Internet use: implications for pre employment screening. *Cyberpsychol. Behav.*, 2002, **15**, 331-47. doi: 10.1089/109493102760275581
 9. Engelberg, E. & Sjoberg, L. Internet use social skills and adjustment. *Cyberpsychol. Behav.*, 2004, **7**(1), 41-47. doi:10.1089/109493104322820101
 10. Floros, G.; & Siomos, K. Excessive internet use and personality traits. *Curr. Behav. Neurosci. Rep.*, 2014, **1**, 19-26. doi: 10.1007/s40473-014-0006-1
 11. Floros, G.; Siomos, K.; Antoniadis, D.; Bozikas, V.P.; Hyphantis, T. & Garyfailos, G. Examining personality factors and character defenses assists in the differentiation between college students with internet addiction and unaffected controls. *Personal. Individ. Diff.*, 2015, **86**, 238-242. doi: 10.1016/j.paid.2015.05.030
 12. Ha, J.H.; Kim, S.Y.; Bae, S.C.; Bae, S.; Kim, H. & Sim, M. Depression and internet addiction in adolescents. *Psychopathology*, 2007, **40**, 424-430. doi: 10.1159/000107426
 13. Hardie, E. & Tee, M.Y. Excessive internet use: the role of personality loneliness and social support networks in internet addiction. *Austral. J. Emerg. Technol. Soc.*, 2007, **5**, 34-37.
 14. Heinström, J. Fast surfing broad scanning and deep diving: the influence of personality and study approach on students information seeking behavior. *J. Doc.*, 2005, **61**(2), 228-247. doi: 10.1108/00220410510585205
 15. Kandell, J.J. Internet addiction on campus: the vulnerability of college students. *Cyberpsychol. Behav.*, 1998, **1**(1), 11-17. doi: 10.1089/cpb.1998.1.11
 16. Ko, C.H.; Yen, J.Y.; Chen, C.S.; Yeh, Y.C. & Yen, C.F. Predictive values of psychiatric symptoms for internet addiction in adolescents: a two year prospective study. *Arch. Pediatr. Adolesc. Med.*, 2009, **163**, 937-943. doi: 10.1001/archpediatrics.2009.159
 17. Kraut, Robert. Internet paradox revisited. *J. Soc. Iss.*, 2002, **58**, 49-74. doi: 10.1111/1540-4560.00248
 18. Lee, M.S.; Hong, S.D. & Joung, Y.S. Characteristics of temperament and character properties in adolescents with internet addiction tendency. *J. Kore. Neuropsych. Assn.*, 2007, **46**, 65-70.
 19. Lee, M.S. & Jung, I.K. Comparisons of temperament and character between problematic internet users and problematic drug users in Korean adolescents. *Open J. Psych.*, 2012, **2**, 228-234. doi: 10.4236/ojpsych.2012.23030
 20. Maples, J.L.; Guan, M.L.; Carter, N.T. & Miller, J.D. A test of the international personality item pool representation of the revised NEO personality inventory and development of a 120-Item IPIP-based measure of the five factor model. *Psychol. Assessment*, 2014, **26**(4), 1070-1084. doi: 10.1037/pas00000004
 21. Meerkerk, G.J. Internet addiction: serious threat for mental health or overanxious media hype? Presented at the MWIA International Congress, Rotterdam, 2010
 22. Mottram, A.J. & Fleming, M.J. Extraversion impulsivity and online group membership as predictors of problematic internet use. *Cyberpsychol. Behav.*, 2009, **12**, 319-321. doi: 10.1089/cpb.2007.0170.
 23. Müller, K.; Dreier, M.; Beutel, M.; Duven, E.; Giralt, S. & Wölfling, K. A hidden type of internet addiction intense and addictive use of social networking sites in adolescents. *Comput. Huma. Behav.*, 2016, **55**, 172-177. doi: 10.1016/j.chb.2015.09.007
 24. Nalwa, K. & Anand, A.P. Internet addiction in students: A cause of concern. *Cyberpsychol Behav*, 2003, **6**(6), 653-656.
 25. Park, J. A study on effective variables of the addictive usage of the internet by adolescents, Masters thesis, Sookmyung Womens University, 2001.
 26. Peters, C.S. & Malesky, L.A. Problematic usage among highly-engaged players of massively multiplayer online role playing games. *Cyberpsychol. Behavior*, 2008, **11**, 481-484.
 27. Pratarelli, M.E; Browne, B.L & Johnson, K. The bits and bytes of computer/Internet addiction: a factor analytic approach. *Behav. Res. Methods Instrum. Comput.*, 1999, **31**(2), 305-314.
 28. Przepiorka, A. & Blachnio, A. Time perspective in internet and facebook addiction. *Comput. Hum. Behav.*, 2016, **60**, 13-18.
 29. Sally, L.P.M. Prediction of internet addiction for undergraduates in Hong Kong unpublished degrees thesis, Hong Kong Baptist University, Hong Kong. 2006.
 30. Song, W. Effects on self efficacy and self control on the addictive use of internet, 1999, Masters thesis Yonsei University.
 31. Weinstein, A. & Lejoyeux, M. Internet addiction or excessive internet use. *Am. J. Drug. Alcohol. Abuse*, 2010, **36**, 277-283.
 32. Wilson, K.; Fornasier, S. & White, K.M. Psychological predictors of young adults use of social networking sites. *Cyberpsychol. Behav. Soc. Network.*, 2010, **13**, 173-177. doi: 10.1089/cyber.2009.0094
 33. Young, K.S. Internet addiction: the emergence of a new clinical disorder. In Young, K.S. & Rodgers, R.C. Internet addiction: personality traits associated with its development, paper presented at the 69th annual meeting of the Eastern Psychological Association, 1998..
 34. Young, K.S. Internet addiction: what makes computer mediation communication habit forming: paper presented at the 104th annual convention of the American Psychological Association, 1997, Ontario, Canada.
 35. Young, K.S. Internet addiction: the emergence of a new disorder. *Cyberpsychol. Behav.*, 1998, **1**(3), 237 - 244. doi: 10.1089/cpb.1998.1.237
 36. Yun, J. The relationship between internet addiction and

mental depression, impulse and sensibility characteristics.
Master's thesis. Korea University. 1998

CONTRIBUTORS

Mr Yuvaraj T. is pursuing his Ph. D. at Bharathiar University, Coimbatore, Tamil Nadu. Currently working as the Assistant Professor at the Department of Psychology, Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu. He has edited 2 books and authored 17 academic publications in the form of journal articles and book chapter. His area of specialisation include : Internet addiction, human relations and holistic personality development of youth.

Dr Suresh A. obtaining his PhD from University of Madras in 2005. Currently working as Scientist at DRDO-Defence Institute of Psychological Researches, Delhi. He has constructed various personality tests and authored more than 30 academic publications in the form of journal articles and book chapters. He is the recipient of *DRDO Science Day Oration Award (2014)*, *Lab Scientist of the year Award (2005 & 2012)*. His area of specialisation is personality research and health psychology.