RESEARCH PAPER
Impact Factor : 3.6241
Physical Education
Index Copernicus Ic Value: 74.50
Volume : 5 | Issue : 12 | Special Issue Dec 2015 | ISSN - 2249-555X
Empowering People: Effective Social Work Approaches & Strategies

CORRELATES OF PERSONALITY AND CYBER ANONYMITY AMONG COMPUTER SCIENCE ENGINEERING STUDENTS

KEYWORDS
Personality, Cyber Anonymity, Computer Science Engineering Graduates.

Elangovan Thangavel
Doctoral Scholar, Department of Psychology, Bharathiar University, Coimbatore – 641 046.

Velayudhan Arumugam
Professor, Department of Psychology, Bharathiar University, Coimbatore – 641 046.

ABSTRACT *Internet is the universal structure that connects people worldwide and provides easy access towards wide range of information's to individuals and groups to facilitate psychological and social interaction. The adolescents are the most dominant group to use such a kind of rising technologies but not without negative consequences, such as cyber bullying, cyber pornography, internet addiction, online anxiety and online self-disclosure etc. This study made an attempt to examine the correlates of personality traits on cyber anonymity among Computer Science Engineering (CSE) students. The sample considered for this study is (N=64) Bachelor of Computer Science Engineering students from a private engineering college situated in Coimbatore district. The NEO - FFI Scale was used to measure students' personality characteristics and the Cyber Anonymity Questionnaire to measure the anonymous behaviour over internet. The results of the study are discussed and implications are suggested.*

Introduction

The internet assists individuals and groups to easy access of wide range of information's and psychological and social interaction between them. Given that adolescents make up the majority of internet users world-wide and more likely to be inclined by the internet (Oktan, 2015). The use of Internet brought many conveniences but not without negative consequences such as cyberbullying, cyberpornography, internet addiction, online anxiety and online self-disclosure etc. According to Ryckman (2008) personality is a "dynamic and organized set of characteristics possessed by a person that uniquely influences his or her cognitions, motivations, and behaviours in various situations" (p. 4). The trait-psychological online research has frequently addressed the association between five factor personality traits and online behaviour (Costa & McCrae, 1985).

Big five personality traits are five broad dimensions of personality namely openness, conscientiousness, extraversion, agreeableness, and neuroticism. Openness reflects the creativity and a preference for novelty and variety. Indicates the degree of intellectual curiosity a person has. Conscientiousness is a tendency to be organized and dependable, show self-discipline, act dutifully, aim for achievement, and prefer planned rather than spontaneous behaviour. Extraversion replicates the Energy, positive emotions, assertiveness, sociability and the tendency to seek stimulation in the company of others, and talkativeness. Agreeableness reflects a tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. Neuroticism refers to the tendency to experience unpleasant emotions easily, such as anger, anxiety, depression, and vulnerability.

The cyberspace provides individuals with exceptional opportunities to fulfill the human desire to communicate and present oneself about their experiences, thoughts, and feelings about their online and offline lives. Cyber anonymity refers to the person be unreachable, or untraceable in the cyber space. Discursive anonymity highlights the perception of adolescents that personal information/identity, online message, comment or a post cannot be endorsed to a particular source which will be helpful in revealing their inner self. Harm Avoidance characterized by excessive worrying, fearful, doubtful, and easily fatigued about the risk involved in online transparency and anonymity. Catharsis refers to sharing emotional tensions and happiness with other online members. Moral Dishonesty reveals the dishonest nature of people in everyday situations and on internet.

Methods & Material

Research Design: Descriptive research design is adopted. The sample consisted of (N=64, Male 29 and Female 35) Bachelor of Computer Science Engineering students from a private engineering college situated in Coimbatore district.

Hypothesis

H1: There will be significant relationship between personality traits and cyber anonymity of the CSE students.

H2: There will be significant difference in cyber anonymity of CSE students with regard to hours of internet usage.

Instruments: NEO-FFI Personality Inventory (NEO-FFI) developed by Paul Costa and Robert McCrae (1989) consisting of 60 items measuring five components namely Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness was used in the present study. Cyber Anonymity Questionnaire (CAQ) developed by Prapakaran (2012) consisting of 36 items measuring four components namely Discursive Anonymity, Harm Avoidance, Catharsis, and Moral Dishonesty was adopted for the current study. Necessary reliability scores were found by using Cronbach's coefficient of reliability. The statistical procedures used were Karl Pearson's correlation coefficient and ANOVA to measure the relationship and differences among variables.

Results & Discussion

Background variables: Forty five percent of participants (n = 29, 45.3%) were men and Fifty four percent (n = 35, 54.7%) were women. The mean age of the sample was 19.7 years (SD = 0.831). Forty four percent of respondents reported they reside in cities, 37.5 % in towns, 12.5% in village and 6.3% in Metro cit-

Volume: 5 | Issue: 12 | Special Issue Dec 2015 | ISSN - 2249-555X

ies. 45.3 percent of the students use internet facilities for 30-50 hours in a week and 29.7 percent of the students use internet facilities for less than 30 hours in a week.

Table: 1
Mean and SD of CSE students on the Personality dimensions based on their Gender

Dimensions of Personality	Gender	Mean	S.D
Neuroticism	Male	40.10	11.220
	Female	40.31	9.377
Extraversion	Male	18.03	6.743
	Female	19.49	8.483
Openness to Experience	Male	42.86	6.712
	Female	40.74	7.022
Agreeableness	Male	43.59	7.858
	Female	32.54	8.226
Conscientiousness	Male	40.00	7.888
	Female	36.17	4.693

Table: 2
Mean and SD of CSE students on Cyber Anonymity dimensions based on their Gender

Dimensions of Cyber Anonymity	Gender	Mean	S.D
Discursive Anonymity	Male	34.41	9.018
	Female	35.17	5.859
Harm Avoidance	Male	37.79	3.886
	Female	40.23	5.760
Catharsis	Male	31.24	3.270
	Female	30.11	4.562
Moral Dishonesty	Male	25.62	3.310
	Female	23.51	3.551

The minimum and maximum scores of the subjects in all five dimensions of personality trait ranged from 12 to 60. The mean score and standard deviation of the personality trait were reported with regard to gender of the respondents in table 1. The mean score of Neuroticism (Male = 40.10, Female = 40.31) shows that the majority of the respondents are prone to experience unpleasant emotions easily, such as anger and anxiety. The level of extraversion among females was found to be higher (18.76) than males (17.11), the small effect could be because of females are likely to score higher than males on positive emotions, gregariousness and warmth. This finding is consistent with the findings of Weisberg, DeYoung and Hirsh (2011). Similarly, the mean value of openness to experience (Male = 42.86 and Female = 40.74) shows very high level; but in the case of agreeableness females have very high level of mean value (43.59), males have an average mean value of 32.54 and similarly the conscientiousness level also varies for males (40.00) and females (36.17) as high and average levels respectively.

The mean value and standard deviation values of the dimensions of cyber anonymity are presented in the table 2. The mean and standard deviation value varies based on the gender, it is inferred that the mean value of harm avoidance was more in females than males and the rest of the dimensions are found with a limited variations in their mean value.

Table: 3
Relationship between dimensions of Cyber anonymity & Personality of CSE Students.

Dimensions	Neuroticism	Extraversion	Openness to Experie	Agreeableness	Conscientiousness
Discursive Anonymity	-.261*	-.087	-.044	-.310*	.636**
Harm Avoidance	.148	.080	-.080	-.284*	-.207
Catharsis	-.153	-.101	.306*	.102	.041
Moral Dishonesty	-.202	-.382**	.180	.114	.159

* Correlation is significant at the 0.05 level
** Correlation is significant at the 0.01 level

Table 3 shows the positive correlation between conscientiousness and discursive anonymity, ($r = 0.636$, $p<0.01$); openness to experience and catharsis ($r = 0.306$, $p<0.05$); conscientiousness and moral dishonesty ($r = 0.228$, $p<0.05$); extraversion and catharsis ($r = 0.238$, $p<0.05$) and openness to experience and moral dishonesty ($r = 0.120$, $p<0.05$). Negative correlation coefficient was observed between Personality dimension of neuroticism and discursive anonymity ($r = -0.261$, $p<0.05$). The other notable negative correlation coefficients observed includes extraversion and discursive anonymity ($r = -0.210$, $p<0.05$); agreeableness and discursive anonymity ($r = -0.310$, $p<0.05$); agreeableness and harm avoidance ($r = -0.348$, $p<0.05$); conscientiousness and harm avoidance ($r = -0.198$, $p<0.05$).

The correlation table explains that when there is an increase in discursive anonymity among the students, their level of conscientiousness also increases, but the other personality dimensions were found to be negative with respect to discursive anonymity. Harm avoidance was found having limited amount of increase in neuroticism and all other personality dimensions decreased with respect to an increase in harm avoidance; but in case of catharsis, there is a decrease in the level of neuroticism and all other personality dimensions have positive correlation showing that there will be an increase with respect to an increase in the level of catharsis. Moral dishonesty was found to have positive relationship with openness to experience and conscientiousness but the other personality dimensions such as neuroticism, extraversion and agreeableness are found to be negative with an increase in moral dishonesty. This shows that the students with increased level of dishonest moral values will have low neuroticism level and are found introverts with disagreeableness.

Table: 4
Mean, SD of the Internet usage hours per week by CSE students and the Dimensions of Cyber Anonymity

Cyber anonymity Dimensions	Internet usage hours / week	N	Mean	SD
Discursive Anonymity	0 - 9 Hours	19	33.74	7.838
	10 - 30 Hours	29	36.00	6.403
	> 30 Hours	16	34.00	8.664
	Total	64	34.83	7.403

Volume: 5 | Issue: 12 | Special Issue Dec 2015 | ISSN - 2249-555X

Harm Avoidance	0 - 9 Hours	19	37.47	4.937
	10 - 30 Hours	29	40.86	4.734
	> 30 Hours	16	37.94	5.272
	Total	64	39.13	5.110
Catharsis	0 - 9 Hours	19	31.53	3.657
	10 - 30 Hours	29	29.34	4.426
	> 30 Hours	16	31.88	3.160
	Total	64	30.63	4.038
Moral Dishonesty	0 - 9 Hours	19	25.53	3.339
	10 - 30 Hours	29	23.14	3.193
	> 30 Hours	16	25.63	3.879
	Total	64	24.47	3.577

Table No: 5
ANOVA on Internet Usage per week by CSE students and the Dimensions of Cyber Anonymity.

Cyber anonymity Dimensions		Sum of Squares	df	Mean Square	F	Sig.
Discursive Anonymity	Between Groups	73.425	2	36.713		
	Within Groups	3379.684	61	55.405	.663	.519
	Total	3453.109	63			
Harm Avoidance	Between Groups	161.877	2	80.939		
	Within Groups	1483.123	61	24.313	3.329	.042*
	Total	1645.000	63			
Catharsis	Between Groups	87.961	2	43.981		
	Within Groups	939.039	61	15.394	2.857	.065
	Total	1027.000	63			
Moral Dishonesty	Between Groups	94.002	2	47.001		
	Within Groups	711.935	61	11.671	4.027	.023*
	Total	805.938	63			

*= Significant at 0.05 level

The Descriptive Statistics and an Analysis of Variance table shows that there was a significant effect on cyber anonymity dimensions such as harm avoidance and moral dishonesty with respect to the usage hours of internet by the CSE students. It was found that there was a significant effect of different hours of internet usage on the harm avoidance dimension of cyber anonymity at the $p<.05$ level among the CSE students [$F(2, 61) = 3.329$, $p = 0.042$], there was also a significant effect of different hours of internet usage on Moral dishonesty dimension of cyber anonymity at the $p<.05$ level among the CSE students [$F(2, 61) = 4.027$, $p = 0.023$]. The other factors of cyber anonymity such as discursive anonymity and catharsis do not have any difference with regard to the internet usage hours. This implies that different work hours alone cannot make the students to be anonymous in working with the internet. Hence, the null hypothesis stating there is no significant difference between the dimensions of cyber anonymity and the hours of internet usage per week is partially accepted. The findings of the study reveal that the hours of internet usage per week alone does not have a strong contribution in the anonymity factor of the respondents was compared with the study conducted by Baggili (2009) which suggested that the level of anonymity is predicted largely by their level of honesty, higher the individual's are found honest lower the level of cyber anonymity.

Table No: 6 Post Hoc tests for Harm avoidance and Moral Dishonesty on Hours of usage of Internet

Hours of usage of Internet	Harm avoidance		Hours of usage of Internet	Moral Dishonesty	
	1	2		1	2
0 - 9 Hours	37.47		0 - 9 Hours	23.14	
10 - 30 Hours	37.94	37.94	10 - 30 Hours		25.53
> 30 Hours		40.86	> 30 Hours		25.63

Post hoc results on Harm avoidance dimension of cyber anonymity showed that the CSE students those who are using internet more than 30 hours per week were much concerned about the risks involved in online transparency and anonymity than the other two levels of internet usage hours on the other hand Moral dishonesty dimension of cyber anonymity showed that the CSE students those who are using internet more than 30 hours per week were likely to be dishonest over internet than the other two levels of internet usage hours. Therefore it is clear that when using internet for longer hours the individual is likely to exhibit dishonest behaviour in cyberspace. Though the cyber anonymity behaviour is not common among all the students those who use internet facilities, it is developed as a habit after a prolonged usage of internet over a period of time.

Conclusions

Anonymity in using internet is still a challenge in the current cyberspace. This study examines whether the different types of personalities are involved to make the students anonymous while using internet. The major reason behind anonymous in using internet may be to maintain privacy but at later stages this leads to several activities against the ethics and norms which was based on the different types of the personality trait one could have and hence different personal factors that are associated with the internet usage are analyzed and found the potential relationship that exist between personality traits and cyber anonymity. On the whole it may be summarized that the Computer Science Engineering students' cyber anonymity behaviour differs with respect to the different hours of internet usage.

REFERENCE | 1. Baggili. I., & Rogers. M (2009). Self-Reported Cyber Crime: An Analysis on the Effects of Anonymity and Pre-Employment Integrity. International Journal of Cyber Criminology, 3(2), 550-565. | 2. Burkell, J. (2006). Anonymity in behavioural research: not being unnamed, but being unknown. University of Ottawa Law & Technology Journal, 3(1), 189-203. | 3. Costa, P. T., & McCrae, R. R. (1985). The NEO personality inventory manual. Odessa, FL: Psychological Assessment Resources Inc. | 4. Costa, P. T., & McCrae, R. R. (1989). Neo Five-Factor Inventory (NEO-FFI). Odessa, FL: Psychological Assessment Resources. | 5. Oktan, V. (2015). An investigation of problematic internet use among adolescents in terms of self-injurious and risk-taking behavior. Children and Youth Services Review, 52, 63-67. http://dx.doi.org/10.1016/j.childyouth.2015.03.009 | 6. Prapakaran, P. (2012). Select psychological correlates of self-reported cyber crime: An exploratory study (Unpublished doctoral dissertation). Indian Institute of Technology, New Delhi. | 7. Rogers, M. (2003). Preliminary findings: understanding criminal computer behaviour: A personality trait and moral choice analysis. Retrieved from http://homes.cerias.purdue.edu/~mkr/CPA.doc | 8. Ryckman, R. M. (2008). Theories of personality (9th ed.). Belmont, CA: Wadsworth Publishing Company. | 9. Weisberg, Y. J., DeYoung, C. G., & Hirsh, J. B. (2011). Gender differences in personality across the ten aspects of the Big Five. Frontiers in psychology, 2, 178. doi: 10.3389/fpsyg.2011.00178