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Loneliness, Internet Addiction and Psychological well-being among students in Sri Lankan Public Universities: A Cross-sectional study

WS Chandrasekara,
Senior Lecturer, Institute of Human Resource Advancement,
University of Colombo
Email: sagara.user@gmail.com

Abstract
Internet usage offers great educational support for undergraduates and also it offers better chances for social interaction and communication. However, internet addiction can lead to harmful psychosocial well-being. Hence, this study examined the relationship between loneliness, internet addiction, and psychosocial well-being among undergraduates in Sri Lankan public Universities. A cross-sectional study was carried out among undergraduates of Colombo, Sri Jayawardanapura, and Kelaniya Universities in Sri Lanka. Those who had been using the internet for at least for past 6 months were included in this research totalling 450 undergraduates, 150 from each university. Young's Internet addiction scale was used to assess the problematic internet use, comprising of 20-item. It was based on a five-point Likert scale. Ryff's Psychological Well-being Scale (PWS) was used to assess the Psychological Well-being of undergraduate students based on a six-point Likert scale in this study. Loneliness has a significant positive correlation with Internet addiction ($r = 0.584$, $P < 0.01$). Further, Internet addiction has a significant negative correlation with psychosocial well-being ($r = 0.693$, $P < 0.01$). Undergraduates with higher levels of internet addiction were more prospective to be low in psychosocial well-being. Simple linear regression indicated that internet addiction was a significant negative predictor of psychosocial well-being. On the other hand, findings indicated that female students' internet addiction was greater than male students. the psychosocial well-being of undergraduates was negatively affected by internet addiction. Therefore, it is essential to develop strategies for the inhibition of internet addiction to promote psychosocial well-being among undergraduates.
Keywords: loneliness, Internet addiction, Psychological well-being, University students
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Introduction

Internet technology has conveyed an incredible change to the world. Individuals, particularly the youths who are in the age of information, trust on the Internet for their numerous commitments. More than 2 billion individuals use the Internet globally (De Argaez, 2012). Within the last few decades, the internet has rapidly spread and it has become the most vital information and communication technology in the world. Due to this huge usage of the internet, new problems have emerged such as isolation, and internet addiction. Internet addiction is an unrecognized condition that can cause interpersonal, work-related, and collective issues, and has been widely examined within the past few decades (Alimoradi, et al., 2019). Internet addiction is defined as poor time management (Tran, et al., 2017). This quickly increased spread of internet usage has unavoidably led to issues such as internet addiction (Sinha, 2007), and problematic internet use (Block, 2008). The rate of danger of internet addiction is increased from 8.68% to 18.4% (Whang, Lee, & Chang, 2003). There is no strong agreement on which term to be used for internet usage-related issues. In literature, different researchers have used different terminologies such as internet dependence (Sinha, 2007), internet addiction (Block, 2008), and problematic internet use (Odacı & Kalkan, 2010). According to Young (2004), internet addiction can be defined as a person's incapability to control his or her own use of the internet triggering disorders and harm in fulfillment of work, collective and individual obligations. In this study term, internet addiction will be used. The term "Internet Addiction" (IA) is used to describe those who are connected to internet-related maladaptive cognitions and behaviors that have poor academic, professional, and social implications (Caplan, 2002; Davis, 2001; Davis, Flett, & Besser, 2002). Especially, the term 'addiction' refers to behavior that reflects a certain cycle of inborn dysfunction that leads to internet use, which aggravates the dysfunction. Though there is an ongoing argument on the conceptualization of the term, many studies have found the negative effect of internet addiction on psychological well-being. Further, the latest research has found a correlation between loneliness, Internet addiction, and psychological well-being (Odacı & Kalkan, 2010). Over time, the vast intensification in the usage of the internet for office work, home, and leisure accomplishments has directed to its universal existence for all accomplishments in the life.

Loneliness and Internet Addiction

Literature highlights loneliness as a key factor for internet addiction (Demir & Kutlu, 2016). There are three viewpoints, a) Internet addiction tends to lead loneliness, b) loneliness tens to lead to Internet addiction, and c) loneliness and Internet addiction interrelate. Those who have the first viewpoint believe that substantial Internet use leads to isolating them from the actual world (Manouchehr, Douran, & Sohrabi, 2007). Those who stated extreme Internet use upsurge loneliness and unhappiness and decreases the level of social interaction and psychological well-being (Kraut, et al. 2002). The second argument proposes that lonely individuals are more expected to be involved in Internet use (Sharifpoor, Khademi, & Mohammadzadeh, 2017). Lonely individuals are fascinated by social interaction through the internet because they believe that it provides them a feeling of belongingness, social relationship, and social interaction (Shapira, Goldsmith, Khosla, & Mcelroy, 2000). Tian et al. (2017) argue that there is an integrated relationship between loneliness and internet addiction. They suggest that there is a bidirectional relationship between loneliness and internet addiction. However, there is no common conclusion about this topic. It may support based on the selected model and methods.

Self-perceptions of social uselessness may lead to loneliness thereby unhappy individuals find what they feel to be safer and less hostile an alternative to face-to-face contact. McKenna, Green, & Gleason (2002) claimed that lonely people are "somewhat more likely to feel that they can better express their real selves with others on the Internet than they can with those they know offline" (p. 28). It indicates that the people who experience loneliness and unhappiness are more tending than mentally stronger individuals to find out about online social interaction and internet use. The tendency for online social contact is a mental individual difference created by views that one is securer, more effectual, more assertive, and more relaxed with online social contacts and relationships than with face-to-face social interactions.

Internet Addiction and Psychological Well-being

Kraut, et al. (1998) discovered that the amount of time a person spent online increased both depression and loneliness over time. However, Kraut, et al. (2002) reported that the identified negative effects of internet users have not been found in a follow-up investigation. They also conducted a second longitudinal study of Internet use and psychological well-being with a group of new computer and television buyers but were unable to reproduce their previous findings. Wästerlund, Norlander, & Archer (2001) looked at self-reported time spent on the Internet, as well as depression and loneliness, and found no significant links between mental health and time spent online. Such results are hard to interpret is that the existing literature lacks precise hypotheses describing why certain people appear to have poor associations with their Internet use (Beard & Wolf).

Materials and Methods

Study design, sampling, and measures

This research entailed a self-administrated data collection machinima which was given instructions explaining how to answer the questions and declaration of privacy. This cross-sectional study was carried out among undergraduates of Colombo, Sri Jayawardanapura, and Kelaniya Universes in Sri Lanka between March to May 2020. Those who had been using the internet at least for the past 6 months were included in this research totaling 450 undergraduates, 150 from each university.

Socio-demographic data

The data were collected through a self-administered questionnaire distributed through email and social media to the students with the support of the teachers of each university. The questionnaire has consisted with basic information such as age, sex, and duration of internet use.

Loneliness

Loneliness was measured based on Loneliness Scale developed by Russell, Peplau, & Cutrona, (1980). This scale is comprised with 20 items assessing the respondents' level of loneliness. They were asked to rate the items from 1 (never) to 5 (always) on a Likert scale. The Cronbach's alpha coefficient was calculated to test the level of internal consistency of items and it was above the threshold which was 0.914.

Internet Addiction

Then it was given Young's scale of internet addiction (Young, 1998) to assess the internet addiction of respondents. Young's scale of internet addiction comprises 20 items. Each item was recorded based on a five-point Likert scale. The scale assesses the level of the effect of daily activities, social life, efficiency, emotion, etc. Total internet addiction marks were computed with achievable scores for the sum of 20 elements from 0 to 100. Cronbach's alpha coefficient of the scale was 0.912 which indicates the good internal consistency of items.

Psychological Well-being

Ryff's Psychological Well-being Scale was used to assess psychological well-being (Ryff, 1989). This scale consists of six dimensions and 42-item of Psychological Well-being. Six dimensions are, (1) Self-acceptance indicates a positive attitude and feelings toward oneself and one's past life. High scorer of this dimension possesses a positive attitude toward the self; recognizes and admits multiple aspects of self including positive and negative qualities. (2) Positive relations with others indicate sustaining interactions with others. High scorer of this dimension has heartfelt, sustaining, trusting associations with others, tend to do welfare of others, have solid empathy, love, and closeness and comprehends human associations. (3) Autonomy indicates a sense of self-willpower, freedom, and liberty from norms. A high scorer of this dimension indicates the ability to resist social pressures and think and act in certain ways, control behavior, assess self by individual standards. (4) Environmental mastery indicates the ability to manage one's life and environment. High scorer of this dimension has a capability in managing the surroundings, regulator multifaceted range of outside accomplishments, use surrounding opportunities effetely, and ability to pick up or construct suitability to individual needs and morals. (5) Purpose in life indicates the life goals and a belief that one's life is meaningful. High scorer of this dimension has goals in life and a sense of directedness, feeling of current and past life, hold beliefs that give life drive and has goals and purposes for living. (6) Personal growth indicates being exposed to new involvements as well as having sustained individual development in life. High scorer indicates that feeling of sustained development, understands self as growing and increasing, open to new involvements, has awareness of understanding his or her potential, sees development in person and behavior over time, and changing in ways that imitate more self-knowledge and efficiency (Ryff, 1989). For each question, undergraduates were asked to specify the level to which they agreed or not with the declaration, on a 5-point Likert scale from 1 ("strongly disagree") to 5 ("strongly agree"). In this study, Cronbach's alpha coefficient was 0.905 which indicates the good internal consistency among items. The objectives of the study were explained at the top of the questionnaire before starting the questionnaire. No one was pressurized to fill out the questionnaire and it was stressed to select a response that they really felt. Informed consent was taken from them through email before starting the question.

Statistical analysis

Statistical package for the social science (SPSS) was used to analyze data. Cronbach's alpha efficiency was calculated to test the internal consistency of the study and it was above the threshold. The relationship between loneliness, internet addiction, and psychological well-being was measured by Pearson's correlation coefficient and simple linear regression was done. Further, independent samples t-test and one-way ANOVA were done to observe the variances, and correlation and regression analyses were done to examine the relationships between items.

Results

A sample of 450 undergraduates' questionnaires was analyzed. Out of 450 undergraduates, 198 (44%) were male whereas the 252 (65%) were female undergraduates. Table 01 gives the correlation between loneliness, internet addiction, and psychological well-being. According to the study findings, loneliness has a significant and positive impact on internet addiction ($r = 0.584$, $P < 0.01$). Further, internet addiction has a significant and negative impact on psychological well-being ($r = -0.693$, $P < 0.01$).

Table 01: Correlation between Loneliness, Internet addiction, and Psychological well-being
(n=450)

No	**Dimensions**	1	2	3	4	5	6	7	8	9
1	Loneliness	1								
2	IA	0.584**	1							
3	PWB	-0.561**	-0.693**	1						
4	Autonomy	-0.532**	-0.401**	0.671**	1					
5	Environmental mastery	-0.522**	-0.412**	0.781**	0.541**	1				
6	Personal growth	-0.501**	-0.512**	0.811**	0.496**	0.563**	1			
7	Positive relations	-0.552**	-0.442**	0.712**	0.503**	0.502**	0.456**	1		
8	Purpose in life	-0.555**	-0.491**	0.691**	0.409**	0.404**	0.521**	0.413**	1	
9	Self-acceptance	-0.524**	-0.511**	0.832**	0.495**	0.513**	0.571**	0.402**	0.527**	1

**Correlation is significant at the 0.01 level. IA: Internet addiction, PWB: Psychological well-being

Internet addiction and psychological well-being variables have a significant opposite relationship, as the level of internet addiction increased, the level of psychological well-being was reduced. Analysis the sub dimensions of psychological well-being indicated negative association with internet addiction. It means, when internet addiction increased sub dimensions were negatively affected, they are self-acceptance (r = -0.511, P < 0.01), positive relations (r = -0.442, P < 0.01), autonomy (r = -0.401, P < 0.01), environmental mastery (r = -0.412, P < 0.01), purpose in life (r = -0.491, P < 0.01), and personal growth (r = -0.512, P < 0.01). These calculations indicate that when internet addiction intensify all the sub dimensions of psychological well-being was reduced and all these associations were above the significant threshold level.

Table 02: Linear regression summary for the independent variable (n =450)

Dependent variables	**R^2**	B	**SEB**	t	**Significant**	F	**Significant**
Loneliness	0. 201	-0.069	0.034	-7.461	0.000	46.371	0.000
PWB	0. 402	-0.524	0.039	-15.463	0.000	196.782	0.000
Autonomy	0. 121	-0.079	0.012	-8.251	0.000	51.493	0.000
Environmental mastery	0.156	-0.083	0.009	-7.912	0.000	69.703	0.000
Personal growth	0.196	-0.112	0.010	-10.181	0.000	101.111	0.000
Positive relations	0.167	-0.101	0.011	-9.831	0.000	89.719	0.000
Purpose in life	0.212	-0.139	0.012	-14.101	0.000	116.812	0.000
Self-acceptance	0.198	-0.089	0.010	-9.411	0.000	74.217	0.000

At first step, loneliness was taken as the independent variable whereas the internet addiction was taken as the dependant variable in the linear regression investigation. In the second step, internet addiction was taken as the independent variable and Psychological well-being was taken as the dependent variable. The findings given in Table 02 indicated that internet addiction was a negatively affected on Psychological well-being, $R^2 = 0.402$, F (1, 458) =196.782, $P < 0.000$. Simple linear regression also revealed that internet addiction was a negatively affected on sub dimensions Psychological well-being, illustrative significantly, (1) 15.1% of the alteration of autonomy, $R^2 = 0.121$, F (1, 458) = 51.493, $P < 0.000$, (2) 13.9% of the alteration of environmental mastery, $R^2 = 0.156$, F (1, 458) = 69.703, $P < 0.000$, (3) 26.1% of the alteration of personal growth, $R^2 = 0.196$, F (1, 458) = 101.111, $P <.000$, (4) 17.3% of the alteration of positive relations, $R^2 = 0.167$, F (1, 458) = 89.719, $P < 0.000$, (5) 22.6% of the alteration of purpose in life, $R^2 = 0.212$, F (1, 458) = 116.812, $P < 0.000$, and (6) 18.2% of the alteration of self-acceptance, $R^2 = 0.198$, F (1, 458) = 74.217, $P < 0.000$ was due to internet addiction. The Psychological well-being and its all the score of sub dimensions declines significantly when internet addiction upsurges.

Limitations

There were number of noteworthy limitations of this research. This research was mainly based on a cross-sectional data collection carried out from three public Universities in and around Colombo from March to May 2020. It would be better if the Universities outside Colombo had been covered as they may have different access to internet usage. Hence, conclusions cannot be generalized to all the undergraduates in public Universities in Sri Lanka. As the data collection was done through google forms, as a self-reported questionnaire, the researcher did not have control to assess whether the student himself or herself well understood the questions and filled out them, and they may be associated with biases.

Discussion

Internet usage offers great educational support for students for their academic work. It offers better chances as well for social interaction and communication; however, problematic internet use can lead to harmful psychosocial well-being. Therefore, this study examined the relationship between loneliness, internet addiction, and psychosocial well-being among undergraduates in Sri Lankan Public Universities. According to the findings of this research, loneliness has a significant positive correlation with internet addiction ($r = 0.584$, $P < 0.01$). Further, internet addiction has a significant negative correlation with psychosocial well-being ($r = –0.693$, $P < 0.01$). These research findings are consistent with earlier research (Gámez-Guadix, Fabiola, Villa-George, & Calvete, 2012) recommending that negative emotions such as loneliness correlated with negative results through internet addiction. According to Sinha (2007), psychological issues are associated with the risk for addiction in general. People with psychological issues such as loneliness are naturally in danger of addiction as their willingness for online social contact than traditional face-to-face interactions (Sinha, 2007). Muñoz-Rivas et al. (2010) found that

individuals who use the internet to cope with undesirable moods such as unhappiness, unrest, or loneliness are more at risk for addiction.

Conclusion

A considerable percentage of university students have Internet addiction which may be harmful to their academic performance thereby their future career development. Initial recognizing and introducing solutions for preventing them is very essential. Increased internet addiction and thereby lower psychological well-being may affect students' life and their education in many ways. Knowing the existing issue with loneliness, internet addiction and thereby lower psychological well-being among university students are essential for students themselves as well as teachers and educational policymakers to support them to prevent loneliness and internet addiction frequency and to solve psychological issues, thereby improving the educational performance and life satisfaction. Students with higher levels of internet addiction were more potential to be low in psychosocial well-being. Simple linear regression indicated that internet addiction was a significant negative predictor of psychosocial well-being. On the other hand, findings indicated that female students' internet addiction was greater than male students. the psychosocial well-being of undergraduates was negatively affected by internet addiction.

Recommendations

This research study findings recommend developing strategies for inhibition of internet addiction to promote psychosocial well-being among undergraduates. Further, it is recognized to introduce Internet addiction prevention programs for high-risk university students, particularly at the beginning of university education periods to familiarise the problem-focused coping strategies instead of emotional-focused coping strategies such as internet addiction. It is highly recommended to introduce social interaction activities among students to inhibit loneliness among students and thereby improve psychological well-being.

References

Alimoradi, Z., Lin, C. Y., Brostro¨m, A., Bülow, P. H., Bajalan, Z., Griffiths, M. D., & Pakpour, A. H. (2019). Internet addiction and sleep problems: A systematic review and meta-analysis. *Sleep Medicine Reviews, 57*, 51–61.

Beard, K., & Wolf, E. (n.d.). Modification in the proposed diagnostic criteria for Internet addiction. *Cyberpsychology & Behavior, 4*, 377-383.

Block, j. j. (2008). Issues for DSM-V: Internet addiction. *American Journal of Psychiatry, 165*, 306-307.

De Argaez, E. (2012). Internet World Stats. *En ligne*.

Demir, Y., & Kutlu, M. (2016). The relationship between loneliness and depression: mediation role of internet addiction. *Educ. Process, 5*, 97-105.

Gámez-Guadix, M., Fabiola, I., Villa-George, & Calvete, E. (2012). Measurement and analysis of the cognitive-behavioral model of generalized problematic Internet use among Mexican adolescents. *Journal of Adolescenc, 35*, 1581-1591.

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues, 58*, 49-74.

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2002). Internet paradox revisited. *J. Soc. Issues, 58*, 49-4.

Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well being? *American Psychologist, 53*, 1017-1031.

Manouchehr, M., Douran, B., & Sohrabi, M. H. (2007). The internet use and users' social isolation (cafe-net users of Tehran). *N. Engl. J. Med, 346*, 1699-1705.

McKenna, K. Y., Green, A. S., & Gleason, M. E. (2002). Relationship formation on the Internet: What's the big attraction? *Journal of Social Issues, 58*(1), 9-31.

Muñoz-Rivas, M. J., Fernández, L., & Gámez-Guadix. (2010). Analysis of the indicators of pathological Internet use in Spanish University students. *The Spanish Journal of Psychology, 13*(2), 697-707.

Odacı, H., & Kalkan, M. (2010). Problematic Internet use, loneliness and dating anxiety among young adult university students. *Computers and Education, 55*, 1091–1097.

Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA loneliness scale: Concurrent and discriminate validity evidence. *Journal of Personality and Social Psychology, 39*, 472-480.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069-1081.

Shapira, N. A., Goldsmith, T. D., Khosla, U. M., & Mcelroy, S. L. (2000). Psychiatric features of individuals with problematic internet use. *J. Affect. Disord, 57*, 267-272.

Sharifpoor, E., Khademi, M. J., & Mohammadzadeh, A. (2017). Relationship of internet addiction with loneliness and depression among high school students. *Int. J. Psychol. Behav. Sci., 7*, 99-102.

Sinha, R. (2007). The role of stress in addiction relapse. *Current Psychiatry Reports, 9*, 388-395.

Tian, Y., Bian, Y. L., Han, P. G., Gao, F. Q., & Wang, P. (2017). Associations between psychosocial factors and generalized pathological internet use in Chinese university students: a longitudinal cross-lagged analysis. *Comput. Hum. Behav, 72*, 178-188.

Tran, B. X., Huong, L. T., Hinh, N. D., Nguyen, L. H., Le, B. N., Nong, V. T., & Ho, R. C. (2017). A study on the influence of internet addiction and online interpersonal influences on health-related quality of life in young Vietnamese. *BMC Public Health, 17*(138), 1-8.

Wästerlund, E., Norlander, T., & Archer, T. (2001). Internet blues revisited: Replication and extension of an Internet paradox study. *Cyberpsychology and Behavior, 4*, 385-391.

Whang, L. S., Lee, S., & Chang, G. (2003). Internet over users' psychological profiles: A behavior sampling analysis on internet addiction. *Cyber Psychology and Behavior, 6*(2), 143-150.

Young, K. S. (1998). *Caught in the Net: How to Recognize the Signs of Internet Addiction and a Winning Strategy for Recovery.* New York: John Wiley & Sons, Inc.

Young, K. S. (2004). Internet addiction: A new clinical phenomenon and its consequences. *American behavioral scientist, 48*(4), 402-415.