Mental Health, Depression, Anxiety and Stress: A Comparison Between Students Using Smart Phones and Basic phones

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Abstract

Smart phones have brought a remarkable level of convenience to our lives. Due to the technological capabilities of smart phones, they can do much of what a computer can. Despite its technological capabilities it also has some negative impact on our life. Several researches have proved that smart phones may adversely affect the mental health, elevate depression, anxiety and stress levels. The present study was designed to investigate mental health, depression, anxiety and stress among two groups of students. Random sampling technique was adopted to select 120 students from various departments of Panjab University Chandigarh and affiliated colleges. Of the 120 students, 60 students are those who are using smart phones with internet access and 60 students are those who use basic phones without internet access. Both the groups consist of equal number of male (N=30) and female (N=30) students. Age range was 18 to 24 years.Mental health of students was assessed by GHQ-12 by Goldberg and Williams (1978). To assess depression, anxiety and stress, DAAS-21 by Lovibond & Lovibond (1995) was used.The results indicate that there are significant differences on mental health, depression, anxiety and stress among students who use smart phones with internet access and those who use basic phones without internet access. Results also revealed significant gender differences on all the dimensions.

Keywords: Smartphone usage, Mental health, Depression, Anxiety and Stress

Introduction

Smart phones have brought a remarkable level of convenience to our lives. Due to the technological capabilities of smart phones, they can do much of what a computer can. Despite its technological capabilities it also has some negative impact on our life. In fact, some mobile phone users consider their handsets as extensions of their physical selves (Campbell & Russo, 2003).

Technology is often used to solve problems. It enables us to have easier access to information. It has also been seen that at work place it helps in increasing the performance of employees because they can easily communicate with coworkers from anywhere (Day et al., 2012). Some researchers (Chesley, 2005; Boswell & Olson-Buchanan, 2007; Golden & Giesler, 2007; Chesley & Johnson, 2010; Currie & Eveline, 2011) have examined whether this technology is actually having a negative impact on ability to balance work and life. Excessive use of smart phones can cause changes of daily life of its owner, directly affecting her health and sleep patterns (Ahn & Kim, 2015).

A smart phone can be defined as "a device that performs many of the functions of a computer, typically having a touch screen interface, internet access, and an operating system capable of running downloaded apps (Oxford Dictionary).

Despite its technological capabilities it also has some negative impact on our life. Several researches have proved that smart phones may adversely affect the physical as well as mental health of the users. Now a day's mental health has become a global concern (Parthi & Rohilla, 201. WHO constitution says that health is a state of complete physical, mental and social well-being and not merely the absence of disorders or infirmity (WHO, 2014). Mental health is a critical factor for the well-being of an individual. Whether it is student life or professional life, without sound mental health it becomes difficult to excel in the respective fields (Parthi & Rohilla, 2017).

Studies show that users often associate using a mobile phone with headaches, impaired memory and concentration, fatigue, dizziness and disturbed sleep (Al-Khlaiwi & Meo, 2004). These are all symptoms of radiation sickness (Khan, 2008). In 2014, 58% of World Health Organization states advised the general population to reduce radio frequency exposure below heating guidelines. The most common advice is to use hands-free kits (69%), to reduce call time (44%), use text messaging (36%), avoid calling with low signals (24%) or use phones (Dhungel et al., 2015).

There is a large amount of research on mobile phone use, and its positive and negative influence on the human's psychological mind and social communication. Referring to the possible negative outcomes of mobile phone use, users may encounter stress, sleep disturbances and symptoms of depression, especially among young adults. Consistent phone use can cause a chain reaction, affecting one aspect of a user's life and expanding to contaminate the rest. It usually starts with social disorders, which can lead to depression and stress and ultimately affect lifestyle habits such as sleeping right and eating right (Sara et al., 2011).

Gender differences also exist on smart phone usage. Behaviors associated with mobile-phone addiction differ between genders (Roberts et al., 2014).

Women are more likely to develop addictive mobile phone behavior than men. Men experience less social stress than women and use their mobile phones less for social purposes. Older people are less likely to develop addictive mobile phone behavior because of different social usage, stress and greater self-regulation (Deursen., 2015).

Thomée et al. 2007 found prospective associations between high Information and Communications Technology (ICT) use, including high frequency of mobile phone use, and mental health symptoms among young adult college and university students. Excessive smart phone use (overuse) is associated with somatic complaints, anxiety, insomnia and depression (Jenaro et al., 2007 & Yen et al, 2009), psychological distress (Beranuy et al., 2009), and an unhealthy lifestyle (Ezoe et al., 2009).

Thomée et al. 2009 conducted a study and reported that mobile overuse was associated with stress and sleep disturbances for women, and high accessibility stress was associated with stress, sleep disturbances, and symptoms of depression for both men and women.

Objectives

• To compare the smart phone users and basic phone users on mental health, depression, anxiety and stress.

 Sample

The sample for the present research study was collected from various departments of Panjab University, Chandigarh. The data consisted of 120 students, 60 students are those who have smart phones with internet access and 60 students are those who use basic phones without internet access. Both the groups consist of equal number of male (N=30) and female (N=30) students. Age range was 18 to 24 years.

Tools

Mental health of students was assessed by GHQ-12 by Goldberg and Williams (1978). This is a 12 item scale with range of score 0 to 36. This scale has been widely used in various cultures as a screening tool to determine whether an individual is at risk of developing a psychiatric disorder. It is extensively used by researchers and found to be reliable and well validated.

Stress, Depression and Anxiety of students was assessed by DAAS-21 by Lovibond & Lovibond (1995). It is a 21 item scale with 7 items under each dimension i.e. depression, anxiety and stress. Range of score is 0-63. The reliabilities (internal consistencies) of the DASS-21, anxiety, depression, stress, and total scale are Cronbach's alpha 0.88 for the depression scale, 0.82 for the anxiety scale, 0.90 for the stress scale, and 0.93 for the total scale.

Design

The variables were measured using standardized scales. Statistical analysis was conducted using SPSS 20. t-test was calculated to assess the mean differences between the groups on all the variables.

Procedure

The questionnaires were individually administered. Clear instructions were imparted to the participants to ensure they had no difficulty in understanding the items. The subjects were given enough time to give their responses. After the data collection scoring was done t-value was calculated.

3. Results

Table-1: t-ratios of male students using smart phones and using basic phones

Variables	Groups	N	Mean	t-value
Mental health	1	30	23.67	8.66**
	2	30	14.47	
Depression	1	30	18.30	0.58
	2	30	17.53	
Anxiety	1	30	26.40	9.43**
	2	30	15.13	
Stress	1	30	32.13	10.01**
	2	30	20.13	

*t value significant at 0.05 level, ** t value significant at 0.01 level

Gp-1 male students using smart phones with internet access

Gp-2 male students using basic phones without internet access

Table-2: t-ratios of female students using smart phones and using basic phones

Variables	Groups	N	Mean	t-value
Mental health	1	30	20.07	8.36**
	2	30	12.50	
Depression	1	30	18.07	3.27**
	2	30	14.40	
Anxiety	1	30	25.07	8.67**
	2	30	14.47	
Stress	1	30	29.67	2.03*
	2	30	26.80	

*t value significant at 0.05 level, ** t value significant at 0.01 level

Gp-1 female students using smart phones with internet access

Gp-2 female students using basic phones without internet access

Table-3: t-ratios of female students using smart phones and male students using smart phones

Variables	Groups	N	Mean	t-value
Mental health	1	30	20.07	3.09**
	2	30	23.67	
Depression	1	30	18.07	0.18
	2	30	18.30	
Anxiety	1	30	25.07	0.95
	2	30	26.40	
Stress	1	30	29.67	1.68
	2	30	32.13	

*t value significant at 0.05 level, ** t value significant at 0.01 level

Gp-1 female students using smart phones with internet access

Gp-2 male students using smart phones with internet access

Table-4: t-ratios of students using smart phones and students using basic phones

Variables	Groups	N	Mean	t-value
Mental health	1	60	21.87	11.30**
	2	60	13.48	
Depression	1	60	18.18	2.52*
	2	60	15.97	
Anxiety	1	60	25.73	12.82**
	2	60	14.80	
Stress	1	60	30.90	7.23**
	2	60	23.47	

*t value significant at 0.05 level, ** t value significant at 0.01 level

Gp-1 students using smart phones with internet access

Gp-2 students using basic phones without internet access

Discussion

Significant results emerged on the mental health, anxiety and stress dimensions for the male students who use smart phones with internet access and who use basic phones without internet access (Table-1). Those who use smart phones with internet possess higher scores on mental health as compared to those who use basic phones without internet access (t=8.66** Mean (M) of smart phone users=23.67, M of basic phone users = 14.47). A high score is indicative of poor mental health. Thereby, suggesting that the male students using smart phones with internet access suffer poor mental health. Significant results also emerged on anxiety for the male students using smart phones and for those using basic phones. Those using smart phones possess higher scores on anxiety as compared to those using basic phones (t=9.43**, M of male smart phone users = 26.4000, M of basic phone users= 15.13). Significant results emerged on stress dimensions for the male students who use smart phones with internet access and who use basic phones without internet access. Those who use smart phones with internet possess higher scores on stress as compared to those who use basic phones without internet access (t=10.01**M of smart phone users=32.13, Mean of basic phone users = 20.13).

Significant results emerged on the mental health, depression, anxiety and stress dimensions for the female students who use smart phones with internet access and who use basic phones without internet access (Table-2). Those who use smart phones with internet access possess higher scores on mental health as compared to those who use basic phones without internet access (t=8.36**M of smart phone users=20.07, M of basic phone users= 12.50). A high score is indicative of poor mental health. Thereby, suggesting that the female students using smart phones with internet access suffer poor mental health. Significant results also emerged on depression. Those using smart phones possess higher scores on depression as compared to those using basic phones (t=3.27**, M of female smart phone users = 18.07, Mean of those using basic phones

Significant results also emerged on anxiety for the female students using smart phones and for those using basic phones. Those using smart phones possess higher scores on anxiety as compared to those using basic phones (t=8.67**, M of female smart phone users = 25.07, M of basic phone users= 14.47). Significant results also emerged on stress. Those who use smart phones with internet possess higher scores on stress as compared to those who use basic phones without internet access (t=2.031**M of smart phone users= 29.67, M of basic phone users = 26.80).

Gender differences among students using smart phones with internet access (Table-3) reveal significant results on mental health (t=3.09, M of female students= 20.07, M of male students = 23.67). No significant results emerged on depression, anxiety and stress dimensions.

Significant results emerged on mental health dimension among students using smart phones with internet access and for those using basic phones without internet access (Table-4). Students using smart phones possess higher scores on mental health as compared to those using basic phones (t=11.30*, M of smart phone users =21.87, M of basic phone users = 13.48). Significant results emerged on depression also. (t=2.52, M of smart phone users =18.83, M of basic phone users = 15.97). For anxiety, results reveal significant differences. (t=12.82**, M of smart phone users =25.73, M of basic phone users = 14.80). On stress dimension significant results are emerged. (t=7.23, M of students using smart phones =30.90, M of students using basic phones = 23.47).

Conclusions and implications

The present research concludes that students using smart phones with internet access report poor mental health. They score higher on depression, anxiety and stress than those who use basic phones without internet access. Poor mental health, anxiety and stress were reported by male students using smart phones. However, no significant differences emerged on depression scores among male students using smart phones and basic phones. Furthermore, results also reveal that females using smart phones suffer poor mental health and score higher on depression, anxiety and stress.

The aim of this study was to explore how excessive use of smart phones can affect mental health, and can cause depression, anxiety and stress among students. The results highlight the fact that despite the technological capabilities of smart phones they also have a negative impact on our life. Al-Khlaiwi & Meo (2004) also report that smart phones may adversely affect the physical as well as the mental health of the users. Gender differences on smart phone usage reveal that females report higher dependence, anxiety and insomnia (Kawasaki et al. 2006; Jenaro et al. 2007; Roberts et al, 2014). However, contrary results emerged for the present study with males reporting poor mental health as compared to the female students.

Smart phones undoubtedly enhance connectivity and information for students. However, it is vital to curtail its usage to reduce depression anxiety and stress in order to improve the mental health status of students.

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