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The relationship between social media addiction and depression: a quantitative study among university students in Khost, Afghanistan

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ABSTRACT

This study examined the relationship between social media addiction and depression among students of the universities in Khost province of Afghanistan. Stratified random sampling was used and a 46-items self-administered questionnaire was distributed to 384 students of three universities Shaikh Zayed, Ahmad Shah Abdali, and Pamir University. Kimberly Young's Internet Addiction Test (IAT) was applied and replicated for measuring social media addiction; depression was measured by the Centre for Epidemiologic Studies Depression Scale (CES-D). The Pearson correlation coefficient, simple linear regression and factor analysis were employed to determine the relationship between social media addiction and depression. The findings indicated that social media addiction has a positive correlation with depression and depression significantly predicts social media addiction.

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Social media addiction; depression; university students; Khost; Afghanistan

Introduction

Depression is one of the major mental health problems worldwide, especially among young adults. According to World Health Organization (WHO), more than 264 million people suffer from depression. Depression can cause the infected individuals to suffer greatly in their everyday life and it mainly affects their daily routine activities such as studying, working and household chores, whereas the severe level of depression can lead to suicide. Around 800 000 people commit suicide every year and suicide is identified as the second leading cause of death among young people aged 15–29 years (WHO, 2020).

Depression is defined as depressive disorders that are characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, feelings of tiredness, and poor concentration (abridge version, WHO, 2017). On the other hand, evidence suggests that using social media can adversely affect its users' mental health, mainly the young generation (Glazzard & Stones, 2016). Other studies reported that the excessive use of social media among young adults is associate with mental health problems, e.g. depression, anxiety, stress, and self-esteem (see Seabrook et al., 2016).

Social media defined as 'websites which allow profile creation and visibility of relationships between users' (Boyd & Ellison, 2008; as cited in Sims et al., 2017) has become one of the common leisure activities among its users. Now, almost half of the world population (49%; 3.80 billion) actively use social media and these numbers are rapidly swelling every day (Kemp, 2020). We use social media for a variety of reasons such as maintaining relationships, access to information and entertainment (Boyd & Ellison, 2007; Lin & Lu, 2011); that made social media as an inseparable part of many individuals' daily life. Although social media provides a range of benefits and opportunities as jut

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mentioned above, concerns have been raised about its excessive usage globally (Baccarella et al., 2018). The excessive or addictive use of social media defined as 'a behavioral addiction that is characterized as being overly concerned about social media, driven by an uncontrollable urge to log on to or use social media, and devoting so much time and effort to social media that impair other important life areas' (Hilliard, 2019). Though over the past decade, studies mainly explored the opportunities provided by internet-social media but now scholars' attention have turned to explore the adverse effects of the internet and social media among its users (Baccarella et al., 2018).

Many prior studies have explored the relationship of social media usage with the users' mental health problems (e.g. depression, anxiety, stress, loneliness, and self-esteem) among the various age group of people in developed countries (Glazzard & Stones, 2016; Hou et al., 2019; Savci, 2016; Shensa et al., 2018; Wang et al., 2018; Waqas et al., 2018). In the least developed countries such as Afghanistan, there is not enough relevant academic literature. Therefore, this study will contribute by examining whether the relationship between the excessive use of social media and mental health problems are the same or not in developed and in least developed countries. The main objective of this study is to investigate the correlation between social media addiction and depression among university students in the Khost province of Afghanistan.

Methods

Study design

This is a descriptive study examining the relationship between social media addiction and depression.

Sampling procedure

The probability sampling method was used in this study and to give an equal chance to all the participants, stratified sampling technique was applied. Later on, stratified random sampling was used in each stratum and the strata represented participants of each university. Yamane's formula was utilized for calculating the sample size (see Singh & A. S. Masuku, 2014).

Instruments

A 46-items self-administered questionnaire was administered in the present study. As English was not the native language of the participants; the questionnaire was translated into local language Pashto and was re-translated back to English by an expert in the field to establish comparability and precise the questionnaire in terms of translation. The questionnaire was pre-tested on a sample of 11 respondents to ensure its structure, wording, and the length of time that participants would be spending in responding to it. A pilot test was also conducted on 42 students and the instrument was proven reliable (Cronbach's alpha above 0.80).

Measures

Social media addiction

Social media addiction was measured using Dr Kimberly Young's Internet Addiction Test (IAT) (Young, 1998). Although IAT is designed for measuring internet addiction, we replicated it for measuring social media addiction. IAT consists of 20 items and all these items were answered on a five-point Likert scale (0 = not applicable, 5 = always). This test measures the level of addiction and it mainly covers the diverse effects of internet usage on its users' daily routine, feelings, sleeping pattern, social life, and productivity. In this test, the minimum score is 30, and the maximum is 100; the higher the score, the greater the addiction level. Young suggests the score range for the addiction level as 0–30, normal; 31–49, mild; 50–79, moderate; and 80–100 points is the sever level of addiction (Young, 1998). In

a meta-analysis study, scholars reported Young's IAT as a reliable instrument for measuring internet addiction particularly among college students (Frangos et al., 2012).

Depression

Depression was measured by the Centre for Epidemiologic Studies Depression Scale (CES-D) which was developed by Lenore Radloff (Kuznetsov et al., 2015). The CES-D scale is a short, structured self-report measure and it was designed mainly to measure depression in population surveys. This scale has 20 items, measures the respondent's depressive feelings and behaviours during the past week. Each item was scored from 0 to 3 on a scale of the frequency of occurrence of the symptom. In this scale, the maximum score is 60 while the minimum score is 15 or less. The higher the score, the greater the depression is considered to be. The CES-D scale suggests the score range; 22–60, greater depression; 15–21, mild or moderate depression; and 15 or less score, the depression does not exist (Kuznetsov et al., 2015).

Data analysis procedure

A quantitative analysis approach was used in the study. In the first step, all the returned questionnaires were screened in terms of the eligibility criteria. The participants who were subscribed to social media and responded to both tests social media addiction and depression were selected for analysis. The Pearson correlation coefficient and simple linear regression were utilized to determine the relationship between social media addiction and depression. These analyses were carried out via SPSS 21.

Result

Participants were 384 undergraduate students of public (SZU) and private (ASAU, PMU) universities in Khost province, Afghanistan. Out of 384 participants, 55 were excluded from the analysis; nine of them were not subscribed to any social media platform and the remaining 46 had an incomplete response, leaving the final sample of 329 participants. Of the participants, 274 students were at the public university of SZU and 55 were at private universities (ASAU & PMU). The vast majority ($n = 310$) of them were male and the remaining ($n = 19$) were female in the study. In terms of marital status, 249 were single and the rest 80 were married. Out of the total respondents, 61 were freshmen, 96 were sophomore, 91 were junior and 81 were senior students. Nearly all respondents (97.9) were aged 18–25 ($Mean_{age} = 21.69, SD_{age} = 1.3$).

In reliability analysis, internal consistency was found perfect for the instruments utilized. Cronbach' Alpha was above .80 for both social media addiction and depression. In terms of data normality, skewness and kurtosis values were found for both social media addiction and depression between -2 and $+2$ as shown in the Table 1. Although data distribution is not perfectly normal between (± 2) values it still can be considered acceptable (see Almquist & Kvart, 2019).

The Table 2 presents the results from the Pearson Correlation analysis of the two variables social media addiction and depression. The correlation coefficient was found ($r = 0.426$) which indicates a positive correlation between the two variables. In other words, as the level of social media addiction increases, the level of depression increases. The p-value was found less than 0.05 and it suggests that the correlation is statistically significant (at the 5% level). Accordingly, it can be said

Table 1. Descriptive statistics.

	Mean	SD	Skewness	Kurtosis	Cronbach' Alpha
Social media Addiction	38.7	17.2	.72	.731	.897
Depression	22.55	13.37	.246	-.49	.918

Table 2. Correlations between variables.

	Social Media Addiction	Depression
Social media Addiction	1	.426**
Depression	.426**	1

Note: N = 329

** p < 0.000

Table 3. Summary of Factor analysis between the two variables.

	KMO and Bartlett's Test			
	KMO	Approx. Chi-Square	Df	Sig
Social media addiction	.914	2166.014	190	0.000
Depression	.938	2572.237	190	0.000

Table 4. Regression analysis summary for predicting social media addiction.

Variable	B	95% CI	β	t	p
(Constant)	9.743	[6.50, 12.985]		5.912	.000
Depression	.331	[.254, .407]	.426	8.503	.000

Note. R2 adjusted = 0.179

CI = confidence interval for B

that a positive linear correlation was found between the two variables, $r = 0.426$, $n = 329$, $p < 0.000$; however, the correlation was weak ($r < 0.5$) (see Samuel & Okey, 2015).

The following Table 3 presents findings for the factor analysis where Bartlett's Test is applied. The KMO value was found 0.914 for social media addiction which is near to 1 and significant at 0.000. The KMO value for depression was found 0.938 and also significant at 0.000 value.

A simple linear regression model was applied to test if depression significantly predicted participants' ratings of social media addiction. The result of regression indicated that depression explained 17.9% of the variance ($R^2 = 0.181$, $F(1, 327) = 72.297$, $p < .000$). It was found that depression significantly predicted social media addiction ($\beta = 0.426$, $p < .000$). S

Therefore, according to all the above evidence, social media addiction was found positively related to depression. Although the correlation was statistically significant, but it was explained as a weak correlation.

Discussion

The main objective of this study was to examine the relationship between social media addiction and depression. As was expected, the findings revealed a positive correlation between social media addiction and depression. The simple linear regression analysis showed that depression significantly predicted social media addiction; however, there was not a strong correlation between social media addiction and depression.

Many prior studies mainly explored the relationship between internet addiction and depression, anxiety, stress, loneliness, self-esteem, social connectedness, insomnia, and other variables related to mental health issues (Akin & İskender, 2011; Cheung & Wong, 2011; Demir, 2016; Ha et al., 2007; Kim et al., 2006; Kimberly, 1998; Savci & Aysan, 2017; Selfhout et al., 2009). Nearly all these studies found a positive relationship between internet addiction and depression and other variables relevant to mental health; however, an earlier study of (Shaw & Gant, 2002) found a negative relation between internet addiction and depression. Only a few other scholars investigated social media addiction/ social media use and its relationships with depression or other mental health problems; almost all these studies found that social media addiction associated with depression/other mental health problems (Hanprathet et al., 2015; Hou et al., 2019; Kelly et al., 2018; Kircaburun, 2016; Savci, 2016;

Seabrook et al., 2016; Shensa et al., 2018; Wang et al., 2018; Waqas et al., 2018). The young generation (high school students) was the target population in many of these studies; they mostly utilized Goldberg, DASS (Depression Anxiety Stress Scale), CES-D and the 6-item Bergen Social Media Addiction Scale (BSMAS) for measuring depression and social media addiction, while we used IATs and CES-Ds in this study. Nearly all these studies confirmed that social media use/social media addiction/technological addiction have a positive relationship with mental health issues such as depression, anxiety, and stress, especially among adolescents. So, our finding ties with these studies and confirms consistency in the result regardless of changing the instruments.

The relationship between technological addictions (social media addiction & smartphone addiction) and mental health issues (depression, anxiety, stress, loneliness, self-esteem, insomnia) have been explored in various developed or developing countries; however, highly likely these relationships are not examined in the least developed countries like Afghanistan. Afghanistan is one of the least developed countries in south Asia. The literacy level is quite low, in 2019 it was estimated approximately 32% of the total population (Kemp, 2019); GDP per capita was estimated 520.9\$ in 2018 and Human Capital Index (HCI), Afghanistan was ranked 0.39 from the scale 0–1 (World Bank & OECD, 2018). In terms of insecurity and political stability, the country witnessed a high number of casualties in conflict among government, the Taliban, ISIS (Islamic State of Iraq and Syria), and foreign troops (see UNAMA, 2019). Afghanistan has experienced a civil war from the last quarter of the twentieth century to the beginning of twenty-first century; however, the country has relatively stable political system since the collapse of the Taliban regime in late 2001. Taking it into account, our research findings confirm that technological addictions explain mental health issues regardless of geographical location, low literacy level, a weak economy, political stability, and conflicts. In other words, social media addiction associates with depression similarly in developed and least developed countries.

Conclusion

In summary, this study reveals that social media addiction has a positive correlation with depression among university students in the Khost province of Afghanistan. In other words, the higher the student addiction level, the greater his/her depression level is. Meanwhile, a simple linear regression analysis also shows that depression significantly predicts social media addiction. This study also confirmed that the internet-based technological addiction positively associates with mental health problems without considering developed and least developed countries. In other words, the addictive use of social media positively associates with depression equally in developed and in least developed societies. Recommendations: 1) It is recommended to the universities management staff to spread public awareness and avoid the overuse of social media among students. 2) It is also suggested to the policymakers in the education sector to find out proper solutions to prevent problematic use of social media in educational institutes. Future study: Further studies have to be conducted to investigate other aspects of problematic use of social media in Afghanistan context such as the relationship between social media addiction and students' academic performance, anxiety, stress, disturbed sleep, self-esteem, and socialism.

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