Investigating the relationship between social media addiction and mental health

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ABSTRACT

Objective: The main objective of this study was to determine the percentage of young people addicted to social media at Najran University. A significant rise in mental health problems among young people has led to increased interest in the relationship between social media and mental health. Therefore, it was important to identify the relationship between social media use and mental health in young people.

Design/Methodology/Approach: Data was collected from 330 students at Najran University. The average age of the sample ranged from M = 21.1 years to SD = 2.52 years. The Bergen Social Media Addiction Scale, the Centre for Epidemiological Studies Depression Scale and the De Jong Gierveld 6-item loneliness scale were used.

Results: The results showed that 60.30% of the participants are addicted to social media. Statistically significant differences were also found between social media addicts and non-social media addicts. Linear regression analysis also showed that internet addiction could be predicted by the variables depression, anxiety and loneliness.

Conclusion: The results indicate the importance of spreading psychological awareness of the risks associated with social media addiction and the psychological damage it brings. Organising seminars and awareness lectures on the impact of social media addiction on students.

Keywords: Anxiety, Depression, Psychological loneliness, Saudi society, Social media, Youth.

1. INTRODUCTION

Mental health has become a primary focus for many governments in different countries in order to maintain high quality health care for their citizens. The spread of social media has created a complex environment for youth, parents, healthcare providers and policymakers with potential negative impacts (Berryman, Ferguson, & Negy, 2018). In 2021, 4.3 billion people (more than half of the world's population) had a social media account and the average user spent about two and a half hour a day on social media. In fact, social media has introduced many new challenges to young people's mental health. It has also provided significant benefits in the development process for young people as they interact with others and present their identities online (Bartsch & Subrahmanyam, 2015). Essential minerals from food are used by humans for the benefit of their bodies. The availability of ideas are now readily available due to technological advancement (Bashir & Bhat, 2017). Thus, the relationship between social media and mental health has been discussed in terms of how reliance on social media for social interactions affects the process of real-life social communication which can lead to depression, isolation, loneliness and anxiety. The present study aims to address this topic among a sample of young Saudis.

1.1. Social Media and its Relationship to Mental Health

Social media addiction is a major concern for parents, researchers and society regarding the mental health of individuals. One of the most common activities of the current generation is excessive use of social media sites (O'reilly et al., 2018). Social media allow interaction through websites such as online games, virtual worlds like Second Life, Sims, YouTube, blogs and other applications i.e. Facebook, Twitter and My Space (Awed & Hammad, 2022; Bashir & Bhat, 2017). The popularity of these sites increased (Braghieri, Levy, & Makarin, 2022). People spend a lot of time using social media and therefore face a higher risk of negative impacts (Selkie, Adkins, Masters, Bajpai, & Shumer, 2020).

Numerous research studies categorize the relationship between social media use and its unwanted outcomes such as increased anxiety, stress, depression, bullying and loneliness (Awed & Hammad, 2022; Bettmann, Gretchen, Casselman, & Kamala, 2021; Hammad & Awed, 2022; Lee-Won, Herzog, & Park, 2015). The increasing use of social media by the younger generation raises alarm about its harmful effects (O'reilly et al., 2018). Scientists also hypothesized that social media penetration may be an important factor in suicides among youth (Braghieri et al., 2022; Marlow et al., 2022; Twenge, 2017). Several studies suggest that there is relationship between increased social media use and high levels of depression (McCrae, Gettings, & Purssell, 2017) and anxiety (Hammad & Alqarni, 2021; O'reilly et al., 2018) body image concerns, eating disorders (Holland & Tiggemann, 2016) and external problems (Riehm et al., 2019) in young people especially among girls (Viner et al., 2019).

For example, Lin (1993) proposes that time spent on social media may be replaced by some important activities that may be beneficial to mental health such as sleeping (Coyne, Rogers, Zurcher, Stockdale, & Booth, 2020) or spending time with friends (Twenge & Martin, 2020). According to this theory, time spent on social media may be related to mental health issues. Conversely, the theory of uses and gratification proposed by Blumler and Katz (1974) suggests that poor mental health may predict increased social media use in the future (Bulut & Yörük, 2017). According to this view, each person chooses to participate in particular media in order to satisfy particular needs and the individual plays a more active role in the media selection process. One of the main motivations for the use of social media is to escape from reality and distract from everyday life (Coyne, Padilla-Walker, & Howard, 2013).

1.2. Current Study

Social media use has become an essential part of everyday life for many people. Different regions of Saudi Arabia indicated that 43% of Saudi children under 5 years old spend at least 4 hours using smart devices and playing electronic games. By the time children reach their teenage they are completely immersed in a world of smartphones and social media (Awed & Hammad, 2022; Chassiakos et al., 2016). Recent official statistics at the Saudi national level indicate that the percentage of young people who use social networking sites reached 98.43% of whom the percentage of males (98.63%) and the percentage of females (98.22%) while the percentage of young people whose social networks affected their social relationships (35.83%) reached the percentage of males (36.81%) and the percentage of females (34.80%). It is clear that the use of social media in Saudi Arabia is becoming more common which may affect the mental health of young people. Studies have shown an important relationship between problematic or excessive use of social media and mental disorders such as ADHD (Andreassen, Griffiths, Sinha, Hetland, & Pallesen, 2016), depression (Bányai et al., 2017; Hussain & Griffiths, 2021), anxiety (Arslan, Yıldırım, & Zangeneh, 2022; Worsley, McIntyre, Bentall, & Corcoran, 2018), social anxiety (Lee-Won et al., 2015), distress (Atroszko et al., 2022), obsessive compulsive disorder (Andreassen, Billieux, et al., 2016), sleep disorders (Wong et al., 2020) and narcissism (Andreassen, Pallesen, & Griffiths, 2017). This study therefore aimed to explore the relationship between social media use which is increasingly popular among young people and mental health. The research questions are as follows:

1. What is the percentage of young people addicted to social media at Najran University?
2. Are there statistically significant differences between social media addicts and non-social media addicts in all variables of depression, anxiety and loneliness?
3. Is it possible to predict the rate of internet addiction through the variables of depression, anxiety and loneliness?

2. MATERIALS AND METHODS

2.1. Participants

352 study tools were distributed to collect data among the study sample of students at Najran University, Saudi Arabia; 339 of them were retrieved from respondents. After analyzing the study tools, 9 of the 339 questionnaires of respondents were incomplete (students did not finish the questionnaire) and had to be deleted leaving the remaining 330 students. The mean age of the sample ranged from M = 21.1 years to SD = 2.52 years.

2.2. Data Collection Procedure

An online survey was used as the most feasible method for data collection. The online survey was available from October 10 to October 20, 2022. The survey was created using a Google Forms template. The survey link was

distributed to university students by sending the questionnaire link to lecturers to share with their students through email or WhatsApp groups. The lecturers explain to the students the purpose of the survey. It was clarified that the students are free to participate in the questionnaire and their answer to the study tools indicates their consent to participate voluntarily in the study. It has been clarified that all data will be confidential. We collected data from 352 participants. After reviewing all questionnaires sent by students and excluding the incomplete one, the study sample consisted of 330 students. The Deanship of Scientific Research at Najran University granted ethical approval for the project prior to implementation (NU/RG/SEHRC/11/3).

2.3. Measurements
2.3.1. The Bergen Social Media Addiction Scale (BSMAS)
A six-item self-report scale that is both brief and effective in assessing at risk online social media addiction. Responses are given on the 5-point Likert scale which ranges from very rare (1) to a lot (5). BSMAS has shown good validity and reliability in previous research (Andreassen, Billieux, et al., 2016; Andreassen et al., 2017; Bányai et al., 2017; Lin, Broström, Nilsen, Griffiths, & Pakpour, 2017; Monacis, De Palo, Griffiths, & Sinatra, 2017). In the current study, Cronbach's alpha reliability coefficient was 0.82.

2.3.2. Generalized Anxiety Disorder-7 (GAD-7) *(Spitzer, Kroenke, Williams, & Löwe, 2006)*
The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition [DSM-IV] diagnostic criteria are the basis for the GAD-7 scale which was developed by Spitzer et al. (2006) to measure the frequency of anxiety symptoms. Individuals are asked how frequently they have experienced each of the seven primary symptoms of generalized anxiety disorder over the course of the last two weeks. "Not at all" to "nearly every day" is represented by responses ranging from 0 to 4   respectively. As a result, scores on the scale range from 0 to 21 with 5, 10 and 15 denoting degrees of mild, moderate and severe anxiety symptoms respectively. The internal consistency of GAD-7 was excellent (Cronbach α = 0.92). The reliability of the retest was also good (0.83) (Spitzer et al., 2006). GAD-7 has also shown good internal consistency, reliability of retest testing, convergence, construction, standard validity and worker validity in several studies (García-Campayo et al., 2010; Löwe et al., 2008; Zhong et al., 2015). The reliability of the system was examined. The reliability of the system of the Saudi Arabian GAD-7 after data collection was good (Cronbach alpha = 0.87), consistent with earlier investigations where Cronbach's alpha varied from 0.74 to 0.94 (García-Campayo et al., 2010; Sidik, Arroll, & Goodyear-Smith, 2012).

2.3.3. Centre for Epidemiological Studies Depression Scale (CES-D-10) *(Andresen, Malmgren, Carter, & Patrick, 1994)*
The CES-D-10 scale contains ten elements to assess depression   which are distributed as follows: three elements on the depressive effect, five elements on physical symptoms and two elements on the positive effect. Responses ranging from "rarely or never" to "always," Therefore, the scale scores range from 0 to 30. Scoring is reversed for items 5 and 8   which are statements with a positive impact. Of the ten items, eight focused on positive symptoms while the other two (items 5 and 8) assessed depression's negative symptoms. Higher scores indicate that the symptoms are more severe. CES-D 10 showed good internal consistency and reliability in the general population (Cheng & Chan, 2005; Irwin, Artin, & Oxman, 1999). CES-D 10 has also shown good sensitivity and specificity in detecting the diagnosis of depression (Björgvinsson, Kertz, Bigda-Peyton, McCoy, & Aderka, 2013; Zhang et al., 2012). After data collection, reliability was examined and the Saudi Arabian CES-D-10 demonstrated adequate reliability and validity   with good internal consistency in this study (Cronbach's =0.81).

2.3.4. The De Jong Gierveld 6-Item Loneliness Scale *(Gierveld & Van Tilburg, 2010)*
This tool evaluates social and emotional, relationships of loneliness between people with three elements each answered on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha (α) was 0.76. (Coelho, Fonseca, Gouveia, Wolf, & Vilar, 2018; Gierveld & Van Tilburg, 2010). Reliability was examined after data collection   and DJGLS showed adequate reliability and validity in Saudi Arabia with good internal consistency in this study (Cronbach's α = 0.78).

 Language specialists translated the BSMAS, GAD-7, CES-D-10   and DJGLS from English into Arabic and then back into English to ensure that the Arabic translation had the same meaning as the original questionnaire. The Arabic

and English translations of the scale were then reviewed by experts in Arabic, Psychology and English. Students assess whether the instructions and elements of the questionnaire are clear and easy to understand.

2.4. Data Analysis
SPSS version 20 was used for all statistical calculations. The study instruments had never been employed in the Saudi context to the researchers' knowledge. The reliability of the tools was verified by computing Cronbach's coefficients. The differences between social media addicts and non-addicts were also examined using descriptive statistics of thought patterns, means, standard deviations and a t-test. Depression, anxiety and loneliness predicted internet addiction which was determined using regression analysis.

3. RESULTS

To answer the first question: what is the percentage of young people addicted to social media at Najran University? The frequencies and percentages of the study sample were calculated. Table 1 illustrates these results.

Table 1 presents the results of this question by presenting the frequencies and percentages of social media use among Najran University students.

Sample	Repetitions	%
Social media addicts	199	60.30
Non-social media addicts	131	39.69
Total	330	100

Table 1 shows that approximately 60% of the study sample reaches the level of addiction to the level of social media use while 39.69 of the study sample use social media normally. These results show that almost two-third of the study sample is addicted to social media and has a significant association with it.

To answer the second question: Are there statistically significant differences between social media addicts and non-social media addicts in all variables of depression, anxiety and psychological loneliness? T-values were calculated for the differences between the scores of the group of students addicted to social media and non-social media addicts on measures of anxiety, depression and psychological loneliness.

Table 2. Differences between social media addicts and non-social media addicts in anxiety, depression and psychological loneliness.

Source	Social media addicts		Non-social media addicts		T	Sig.
	M	SD	M	SD		
Depression	20.96	4.28	17.46	3.33	7.92	0.00
Anxiety	15.61	2.45	12.01	2.68	12.51	0.00
Psychological loneliness	20.93	5.17	19.66	4.26	1.97	0.04

Table 2 shows that there are statistically significant differences of 0.001 between social media addicts and non-social media addicts in depression, anxiety and psychological loneliness. This shows that social media addicts suffer from depression, loneliness and anxiety compared to non-social media addicts.

To answer the third question: Is internet addiction predictable through depression, anxiety and loneliness variables? Regression analysis was used to determine the degree of addiction as the dependent variable and the degrees of anxiety, depression and psychological loneliness as the independent variables. Table 3 shows the regression analysis between social media addiction, depression, anxiety and psychological loneliness.

Table 3. Regression analysis results of the association between social media addiction, depression, anxiety and psychological loneliness.

Variables	B	Std. error	Beta	T	P
Constant	3.15	0.14		14.895	0.01
Depression	0.031	0.005	0.258	5.77	0.01
Anxiety	0.075	0.007	0.471	10.32	0.01
Psychological loneliness	0.012	0.005	0.114	2.55	0.011

Note: R = 0. 633; R^2 = 0.401; Adjusted R^2 = 0.395; F (72.73) p < .05.

It is clear from Table 3 that the contribution of depression, anxiety and psychological loneliness in predicting internet addiction reached 40% which indicates the ability of the three variables depression, anxiety and psychological loneliness to predict internet addiction.

4. DISCUSSION

Social media has significantly enhanced the virtual environment over the past decade by making it easier for users to share personal information, photos and videos as well as their thoughts and feelings in unprecedented proportions. However, excessive use of social media in terms of time duration, quality and purposes of use or applications   may cause the individual to find himself forcibly driven without an actual urgent need to use social media   and he cannot stop, resist or control this behavior. This behavior becomes dependent and the individual becomes addicted to social media. This entails many psychological problems such as depression, anxiety and psychological loneliness.

In the current study, the results showed that 60% of students are addicted to social media. There is a positive relationship between social media use and depression, anxiety and psychological loneliness. The addiction of students to social media may be due to the fact that university students are among the most exposed to social media. The use of social media especially during the lockdown contributed significantly to the learning process (Andreassen, Billieux, et al. (2016); Andreassen, Griffiths, et al. (2016); Arslan et al. (2022); Bányai et al. (2017); Lee-Won et al. (2015); McCrae et al. (2017) and Twenge (2017).

The results also indicated that there were statistically significant differences between social media addicts and non-addicted university students. These findings suggest that social media addicts suffer more from anxiety, depression and psychological loneliness than non-addicts. University students who are addicted to social media evade various pressures that make them feel suffering and pain to find comfort and vent without embarrassment, fear or threat (Awed & Hammad, 2022). Alternatively, perhaps the addiction to these means among students is a kind of mitigation, entertainment and unrestricted integration that keeps them away from negative feelings either towards themselves or towards those around them that they cannot express explicitly or implicitly (Hammad & Awed, 2020; Nripendra & Jour, 2017). The internet is an open world that has no borders and does not impose conditions on entering it, frequenting it or immersing in its various paths, without the trouble, costs, burdens or conflicts that can be imposed on the individual in his real life. He also stressed that the multiplicity of social media may make the individual forget the problems and negative feelings he faces. On the other hand, he cannot interact with others in his social environment. The results also indicated the predictability of social media addiction through depression, anxiety and psychological loneliness. This may be due to the fact that depression, anxiety and psychological loneliness are negative emotional experiences that indicate abnormal and emotional imbalance which have many common factors. Social media addiction is abnormal behavior; it is logical that abnormal behavior (social media addiction) is positively associated with negative pathological abnormal behaviors (depression, psychological loneliness) (Jin-Liang, Jia-Rong, & Hai-Zhen, 2019). This may be explained by the fact that social media addiction is a disorder that represents mental disorders or that it shares some of its symptoms, motives, effects and consequences with some other mental disorders. Social media addiction can be seen as a link between a set of abnormal negative behaviors and a group of behavioral or psychological disorders that cause suffering and pain. According to Andreassen et al. (2017); Bányai et al. (2017); Braghieri et al. (2022); Coyne et al. (2020); Jin-Liang et al. (2019); McCrae et al. (2017) and O'reilly et al. (2018), social media addiction causes depression, psychological loneliness and anxiety.

5. CONCLUSION AND IMPLICATIONS

The main objective of this study was to determine the percentage of young people addicted to social media at Najran University. In addition, it identifies the differences between social media addicts and non-social media addicts in all variables of depression, anxiety and loneliness. It investigates the extent to which the rate of internet addiction is predicted by the variables of depression, anxiety and loneliness. The results revealed that almost two-thirds of the study sample has an addiction to social media. Using social media has become an essential part of daily life for many individuals. The way young people use social media is changing rapidly due to the rapid pace of technological innovation. Although seeking to restrict access to the internet may reduce young people's exposure to online risks such as psychological problems, it also limits young people's opportunities to develop digital skills and build knowledge and resilience. Therefore, public policy should focus on how to develop the ability of young

people to control their use of social media to maintain their emotional and mental well-being, lead a safe digital life and organise seminars for students about the impact of social media addiction on mental health.

CONFLICT OF INTEREST
The authors declare that they have no competing interests.

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