PREVALENCE AND FACTORS ASSOCIATED WITH SOCIAL NETWORKING ADDICTION AMONG SAUDI UNIVERSITY STUDENTS: A CROSS-SECTIONAL SURVEY

Abstract: This study aims to determine the prevalence of social networking addiction among Saudi university students and its association with demographic variables. It also aims to assess students' perceptions of the benefits of social media and explore the relationship between social media usage and students' preferred social networking platform. Method: This cross-sectional study was conducted in April 2019 on male and female students enrolled at Taif University, Saudi Arabia. An online questionnaire was distributed through popular social media platforms (Twitter, Instagram, and WhatsApp). The questionnaire included questions on demographic characteristics, items that reflect addiction, and the advantage of social networking site use scale. Pearson's correlations test was used to assess the association between continuous variables, including the students' perceptions of social media addiction, advantage of social media use, usage of different social media platforms, and daily hours of social media use. Results: Of the 996 university students invited to participate, 697 completed the survey, representing a response rate of 70.0%. Overall, the mean rating for the students' perceived social media addiction was 2.71/5. Conversely, their overall perception of the advantages of using social media was 3.31/5. Students' perceived usefulness of social media significantly exceeded their perceived addiction to social media ($p < .001$). Pearson's test indicated that students' perceptions of social media addiction correlated significantly and positively with their perceptions of the advantages of social media use ($r = .38$, $p < .010$). Overall, the hours of daily social media use, frequency of social media use during lectures, Snapchat use, and students' perception of the advantages of social media were predictors of social media addiction.

Keywords: Addiction; social media; social networking addiction; Facebook, Instagram, Snapchat, Twitter, WhatsApp

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INTRODUCTION

communication has made life easier, increased productivity, and simplified communication; however, it is not without its downsides. One phenomenon that is worthy of attention is addiction to the Internet, which has been mostly associated with smartphone use (Mohammadi et al. 2018). The phenomenon of Internet addiction encompasses several types of addiction, including addiction to smartphones, video games and social networking sites (SNS) (Griffiths 2005). The underlying symptoms of addiction include tolerance, withdrawal, conflict, salience, relapse, and mood changes (Andreassen 2015; Griffiths 2005). Additionally, addiction is not limited to drugs and alcohol, but also includes behaviours that are often repeated excessively, causing symptoms similar to those of addiction in its entirety (Griffiths 2005).

Social networking addiction is a global phenomenon that has been studied in many countries. (Asiri et al. 2012; Azizi, Soroush and Khatony 2019; Hawi and Samaha 2017; Mohammadbeigi et al. 2011; Tang and Koh 2017). A study conducted in Singapore revealed that SNS addiction was widespread among college students, Arabia. Alshehri and Lally (2019) indicated in their study that Saudi university students used social media sites as a tool for learning and as a supplement to the curriculum, but very little research has been done around social networking addiction or to investigate the role of socio-economic factors. Additionally, no study has identified the social networking sites that mainly contribute to social networking addiction in Saudi university students.

Therefore, this study aims to determine the prevalence of social networking addiction among Saudi university students and its association with demographic variables. It also aims to assess students' perceptions of the benefits of social media and explore the relationship between social media usage and students' preferred social networking platforms.

The tremendous progress in technology and especially among females (Hawi and Samaha 2017). Additionally, a study conducted in Iranian students revealed a moderate level of social networking addiction among students, with higher levels in male students (Azizi et al. 2019).

In Saudi Arabia, one study conducted in 2014 revealed that 94% of students attending a Saudi university owned a smartphone (Alfawareh and Jusoh 2014), which has been associated with social media addiction. Another study conducted in Saudi Arabia revealed that 97.6% of students used social media (Alshehri and Lally 2019). Additionally, 56% of the students surveyed owned mobile devices with Internet access. According to another report, Saudi university students were at high risk of developing an addiction to smartphones, which was associated with negative academic performance (Alosaimi et al. 2016). This finding is in line with a more recent study conducted among Saudi students that found that 71% of the respondents were addicted to their smartphones (Venkatesh, Jemal and Samani 2019). Furthermore, the investigators reported that

SNS use was significantly associated with smartphone addiction.

Andreassen (2015) defined social networking addiction as "being overly concerned about online social networking use to be driven by a strong motivation to log on to or use online social networking that impairs other social activities, studies/jobs, interpersonal relationships, and/or psychological health and wellbeing." Social networking addiction can be attributed to several reasons. For example, a study conducted in a Chinese secondary school suggested that the restriction of phone use in students probably led to a state of pressure and deprivation that resulted in students later becoming addicted to social media as a form of freedom at the university level (Yang, Asbury and Griffiths 2019).

While several studies have investigated social media networking addiction across different countries, there is a paucity of data on social media addiction among university students in Saudi

developed by Rayan et al. (2017). The scale measures the advantage of using the Internet among university students. Items are rated based on a five-point Likert scale ranging from strongly degree to strongly disagree. Cronbach's alpha was 0.67 for the Internet advantages scale. For the purpose of this study, the items of the scale were converted from the advantages of Internet use to the advantages of social media use. The chosen items were those considered to be associated with the usefulness of using social media; particularly in learning.

STATISTICAL ANALYSIS

The Social Package for the Social Sciences (IBM SPSS Inc., Armonk, NY) was used to analyse the data. Pearson's correlation was used to assess the association between continuous variables, including the students' perceptions of social media addiction, advantage of social media use, usage of different social media platforms, and hours of daily use of social media. The categorical principal components analysis was used to compute a standardized socio-economic index score. The relative importance of the indicators (measured using a five-point Likert-like rating) was quantified by the relative importance index (RII), which is a percentage reflecting the weighted average of the items. Results are presented as frequency (percent) and mean (standard deviation).

RELIABILITY ANALYSIS

Cronbach's test of internal consistency was used to assess the reliability of the measured indicators of social media addiction (the Bergen Social Media Addiction scale) and perceived advantages of social media (Rayan et al. 2017). As shown in Table 1, Bergen's six-item social media addiction questionnaire (Cronbach's alpha = 0.70) and the six-item social media use advantages scale (Cronbach's alpha = 0.75) were both reliable. Overall, the 12 items were measured with an overall substantial reliability (alpha = 0.78) (Nunnally and Bernstein 1994).

METHODS

This cross-sectional study was conducted in April 2019 on male and female students enrolled in Taif University, Saudi Arabia.

MEASURES

Convenience sampling was used to recruit the participants. An online questionnaire was distributed through popular social networking sites, such as *Twitter*, *Instagram*, and *WhatsApp*, available to university students. The questionnaire consisted of three parts. The first part consisted of demographic variables, such as gender, socio-economic index score (such as household income, income, parents' levels of education, family size, and students' daily personal expenses in Saudi riyals), type of electronic device used, screen size of the device, use of e-devices during the lectures, and daily social media use in hours.

The second part included the Bergen Facebook Addiction Scale (BFAS), which was developed by Andreassen (2015). The scale consists of six items that reflect addiction criteria, such as withdrawal, salience, mood modification, conflict, tolerance, and relapse. Items are rated based on a five-point scale that ranges from very rarely to very often. The composite score ranges from 6 to 30. For this study, the BFAS scale was translated from English into Arabic by following the protocol proposed by Beaton et al. (2000). Two translators were consulted for the translation and cross-cultural adaptation of self-reported measures: the initial translator (Arabic translator) translated the scale from English to Arabic, and the other translator was a native speaker from the English Department of Taif University, who checked any differences between the original and back translation. Any differences between the two versions were and sought and resolved between the two translators. Additionally, the validity and relatability of the final draft was tested on 50 students.

The third part of the questionnaire consisted of the advantage of social networking site use scale

Table 1: Reliability analysis of the questionnaire

	Number of items	Cronbach's alpha
Perceived advantages of social media	6	0.70
Perceived social media addiction	6	0.75
Overall questionnaire	12	0.78

females. Approximately 19.7% of the students' mothers were illiterate, compared to 7.0% of the fathers who were unlettered (Table 2). Most of the students lived with their families in a family-owned home (75.9%). The mean (SD) household size, including the parents, was 8.6 (3.6) members. The students reported a mean (SD) daily personal expense of 30.1 (25.8) Saudi riyals (SAR). When asked to rate their household incomes on a Likert-type scale, with 1 = very low income and 6 = very high income, the mean household income rating was 3.3 (1.0) SAR. This represented middle to above average household income rating, with 50.8% of the students reporting that they came from middle income households.

ETHICAL CONSIDERATIONS

Ethical standards (Vancouver) were followed throughout the study. The students participated in the survey after signing an informed consent. In order to preserve the privacy of the students, researchers did not ask them to be named in the questionnaire and assured them that the information would remain confidential and available for analysis purposes only.

RESULTS

Of the 996 university students invited to participate, 697 completed the survey, representing a response rate of 70.0%. Of these, 72.3% were

Table 2: Students' socioeconomic and demographic characteristics

Variables	Frequency	Percentage
Gender		
Female	504	72.3
Male	193	27.7
Mother's educational level		
Illiterate	137	19.7
Elementary	148	21.2
Middle stage	123	17.6
Secondary	128	18.4
College	26	3.7
Higher studies	135	19.4
Father's educational level		
Illiterate	49	7.0
Elementary	81	11.6
Middle school	114	16.4
Secondary	199	28.6
College	38	5.5
Higher studies	216	31
Type of family housing		
Rented	168	24.1
Family owned	529	75.9
Monthly household income rating		
Very low	37	5.3

Low	56	8
Middle	354	50.8
Above average	167	24
High	66	9.5
Very high	17	2.4

third admitted to using them often during lectures and a slightly smaller proportion reported seldom using these devices during lectures (Table 3). Overall, the mean (SD) usage of social media during lectures was rated 2.3 (1.0) out of four points. They reported spending on average 7.4 (5.5) hours daily on social media sites, with 75% using social media daily for ≤ 10 hours.

More than half of the respondents (64.0%) used smartphones for social media and only a very small proportion reported using iPads for social networking (Table 3). Approximately 69.2% of the students reported that their devices had medium-sized screens. Regarding the use of mobile devices during lectures, a little over one-

Table 3. Descriptive statistics of students' self-rating of electronic devices and social media usage

Variables	Frequency	Percentage
Type of electronic device used		
iPad	10	1.4
Smartphone	446	64.0
Another device	241	34.6
Screen size of the device		
Small	70	10
Medium	482	69.2
Large	145	20.8
Use of e-device during lectures, mean (SD)		
Never	173	24.8
Seldom	241	34.6
Often	247	35.4
Quite often	36	5.2

INDICATORS OF STUDENTS' PERCEIVED ADVANTAGES OF SOCIAL MEDIA

The top indicator of students' perceptions of the advantages of social media were "using social media to help them in their studies" (mean rating = 3.75/5, RII = 75.1%). This indicator was followed by students' perceptions of feeling more informed than others because they used social media (mean rating = 3.69/5, RII = 73.7%) and their perceptions that they could solve many problems with the help of social media (mean rating = 3.51/5, RII = 70.2%). Other indicators of students' perceived usefulness of social media are shown in Table 4.

INDICATORS OF SOCIAL MEDIA ADDICTION

The top indicator of social media addiction among university students was their self-rating of an urge to use social media more and more (mean frequency rating = 3.2/5, RII = 64.0%). The next most ranked indicator of social media addiction among the university students was "using social media in order to forget about their personal problems" (mean frequency rating = 2.95/5, RII = 59.1%). Other indicators of students' addiction to social media are shown in Table 4.

Table 4: Descriptive statistics and relative importance index analysis of the students' perceptions of social media addiction and advantages of social media

Indicators	Mean (SD) Likert Rating	RII (%)	Rank
Perceived advantages of social media			
1. Social media helps me a lot in my studies	3.75 (1)	75.1	1
2. I can solve many problems with the help of social media	3.51 (1.1)	70.2	3
3. I make good friendships with different people on social media	2.78 (1.33)	55.6	6
4. Using social media does not make me feel lonely	3.34 (1.2)	66.9	4
5. Using social media makes me feel self-confident	2.79 (1.3)	55.8	5
6. I feel that I am more informed than others because I use social media	3.69 (1.1)	73.7	2
Perception of social media addiction			
1. I spend a lot of time thinking about social media or planning my use of social media	2.49 (1.2)	49.8	5
2. I feel an urge to use social media more and more	3.2 (1.3)	64.0	1
3. I use social media to forget about my personal problems	2.95 (1.31)	59.1	2
4. I have tried to cut down my use of social media without success	2.55 (1.4)	50.9	4
5. I would become restless or troubled if I was prohibited from using social media	2.77 (1.4)	55.3	3
6. I use social media so much that it has a negative impact on my job or studies	2.32 (1.3)	46.4	6

Abbreviations: RII, relative importance index; SD, standard deviation.

Overall, the mean rating for the students' perceived social media addiction was 2.71/5. Conversely, their overall perception of the advantages of using social media was 3.31/5. Further analysis using a paired samples t-test showed that the students' perceived usefulness of social media significantly exceeded their perceived addiction to social media ($p < .001$).

The students' self-rating of how often they used social media during lectures was 2.26/4 points (Table 5). The students' mean rating of their frequency of different social media platforms was highest for Snapchat (4.5/5) and lowest for Facebook (1.16/5). The total score for the students' frequency of usage of these social media platforms was 18.51/25, which corresponds to a 74.4%usage.

Table 5: Descriptive statistics of the students' perceptions of internet addiction, social media advantage and usage

Indicators	Mean (SD)	Maximum Possible Score
Perceived addiction to social media	2.71 (0.86)	5
Perceived advantages of social media	3.31 (0.75)	5
Self-rated use of phone during lectures	2.26 (1)	4
Likert rating of Facebook use	1.16 (0.57)	5
Likert rating of Twitter use	3.6 (1.3)	5
Likert rating of Instagram use	4.13 (1.15)	5
Likert rating of Snapchat use	4.5 (0.94)	5
Likert rating of WhatsApp use	4.74 (0.59)	5
Overall use of social media platforms	18.41 (2.55)	25

Abbreviations: RII, relative importance index; SD, standard deviation.

PERCEIVED ADDICTION TO SOCIAL MEDIA

Pearson's test indicated that students' perceptions of social media addiction were significantly positively correlated with their perceptions of the advantages of social media ($p < .010$). Similarly, the average hours of daily social media use was significantly positively correlated with their perceived addiction to social media ($p < .010$). As shown in Table 6, a positive and significant correlation was also found between the students' perceptions of the advantages of social media and their self-rating of their use of Twitter, Instagram, and Snapchat ($p < .010$ in all cases). Furthermore, the students' self-rated frequency of use of social media during lecture times correlated positively and significantly with their self-rated social media addiction score ($p < .010$).

Table 6: Pearson's correlation showing the correlation between students' perceptions of social media addiction and other variables

	Perceived addiction to social media	Advantage	SES	Hours use	Daily expense	Family size	Facebook	Twitter	Instagram	Snapchat	WhatsApp
Perceived advantage of social media	.381**										
Socio-economic index	.014	.023									
Hours of daily social media use	.220**	.150**	.054								
Daily personal expenses in SAR	-.003	-.063	.136**	-.022							
Family size	.063	.10*	-.476**	.10*	-.040						
Likert rating of Facebook use	-.037	-.034	-.049	-.033	.056	.031					
Likert rating of Twitter use	.129**	.13**	.10*	.20**	.054	.018	-.001				
Likert rating of Instagram use	.087*	.14**	.10**	.12**	-.017	-.038	-.064	.201**			
Likert rating of Snapchat use	.157**	.20**	.071	.171**	.035	.038	-.099**	.170**	.304**		
Likert rating of WhatsApp use	-.014	.009	-.019	.079*	.057	.042	-.085*	.070	.066	.252**	
Phone use during lectures	.136**	.044	-.010	.261**	.071	.061	.081*	.188**	.027	.106**	.122**

Abbreviations: SES, Socio-economic index; SAR, Saudi riyals

* Correlation is significant at the 0.050 level (2-tailed). ** Correlation is significant at the 0.010 level (2-tailed).

PERCEIVED ADVANTAGE OF SOCIAL MEDIA USE

The students' perceptions of the advantages of social media correlated significantly with their total hours of daily social media and e-device use ($r = .15$, $p < .010$). Furthermore, a weak but significant positive correlation was found between family size and students' perceived advantage of social media ($p < .010$). Likewise, a significant positive correlation was found

between students' usage frequency of Twitter ($p < .010$), Instagram ($p < .010$), and Snapchat ($p < .010$) and their perceptions of the advantages of social media.

A significant positive correlation was found between socioeconomic index and students' daily expenses ($p < .010$) and their frequency of Twitter use ($p < .010$) and Instagram use ($p < .010$). Conversely, a negative correlation was found between socioeconomic index and family size ($p < .010$; Table 6).

AVERAGE HOURS OF DAILY SOCIAL MEDIA USE

The average hours of daily social media use correlated significantly with social media addiction ($r = .220$, $p = .010$) and students' perceptions of the advantage of social media ($r = .150$, $p = .010$). Additionally, the average hours of daily social media use correlated positively with family size ($p < .050$), usage frequency of Twitter ($p < .010$), Instagram ($p < .010$), Snapchat ($p < .010$) and WhatsApp ($p < .050$). Of note, students' average hours of daily social media use correlated positively and significantly with their usage of social media during lectures ($p < .010$).

SOCIAL MEDIA USE DURING LECTURES

The use of social media during lectures was positively but weakly correlated with students' average hours of daily social media use, including the use of Facebook, Twitter, Snapchat, and WhatsApp. Additionally, the students' self-rated usage of Facebook had a weak correlation with the usage of the other social media platforms (Table 6). The independent groups t-test indicated that male and female students did not differ significantly in their mean perceived social media addiction ($p = .414$). They also did not differ significantly in their perceptions of the advantages of social media ($p = .942$). On the other hand, a t-test showed that the mean socioeconomic indexes differed significantly between male and female students (Table 7). Female students had a significantly higher mean socioeconomic and educational class score than their male peers ($p = .046$). Moreover, female and male students did not differ significantly in their usage of Facebook, Twitter, and WhatsApp ($p > .050$ for each variable). An independent samples t-test showed that males and females differed in their usage of Instagram and Snapchat, with female students using both platforms more often than their male peers ($p < .050$ in each case). Female students also reported significantly more hours per day of social media use than their male counterparts ($p = .009$).

Although there was no significant difference in the mean frequency of social media use during lectures between the two genders, male students reported using social media slightly more often than females ($p = .126$). The chi-square test of association showed that male students were slightly more likely to use smartphones than their female peers for social media networking ($p = .068$). Similarly, a non-significant difference was found between males and females regarding their usage of various mobile devices based on screen size ($p = .229$).

Table 7: Bivariate comparison between male and female students for significant differences on their mean perceptions and other predictors*

Indicators	Gender		P-value
	Female Mean (SD)	Male Mean (SD)	
Perceived addiction to social media	2.73 (0.9)	2.7 (0.9)	.414
Socio-economic educational index	0.048 (1.01)	-0.123(1.01)	.046
Perceived advantage of social media	3.31 (0.8)	3.31 (0.8)	.942
Household size	8.53 (3.6)	8.62 (3.3)	.783
Facebook use	1.14 (0.5)	1.23 (0.7)	.127
Likert rating of Twitter use	3.67 (1.3)	3.42 (1.3)	.024
Likert rating of Instagram use	4.3 (1)	3.69 (1.3)	< .001

Likert rating of Snapchat use	4.6 (0.9)	4.35 (1.04)	.015
Likert rating of WhatsApp use	4.73 (0.6)	4.8 (0.6)	.532
Hours of daily e-device/social media use	7.8 (5.7)	6.6 (4.7)	.009
Phone use during lectures	2.23 (1)	2.35 (1)	.126
Type of phones/devices			
iPad	9 (1.8%)	1 (0.5%)	.068
Smartphone	311 (61.7%)	135 (69.9%)	
Another device	184 (36.5%)	57 (29.5%)	
Screen size of the device			
Small	45 (8.9%)	25 (13%)	.229
Medium	356 (70.6%)	126 (65.3%)	
Large	103 (20.4%)	42 (21.8%)	

*Data are presented as mean (standard deviation) and frequency (%) unless otherwise specified.

A bivariate analysis revealed that male and female students did not differ significantly in their perceived social media addiction (p = .689, Table 8). However, there was a slight difference in the mean social media addiction across maternal education levels (p = .080). Moreover, social media addiction was not statistically significant across the students' fathers' educational levels, household income, and housing type (p > .050 in each case).Welch's adjusted one-way ANOVA showed a significant difference in the students' mean perceived social media addiction across the levels of their use of social media during lectures (p = .003). Additionally, a Games-Howell post-hoc follow-up pairwise comparison showed that students who often used social media during lectures were significantly more addicted to social media than those who reported that they seldom used media during lectures (p = .037). Those who reported often using social media were also significantly more addicted to social media than those who reported that they had never used social media (Table 8).

Table 8: Bivariate analysis showing the association between students' mean social media addiction score and other variables

Variables	Mean (SD) Social Media Addiction	P-value
Gender		
Female	2.73 (0.86)	.414
Male	2.67 (0.88)	
Mother's educational level		
Illiterate	2.719 (0.84)	.080
Elementary	2.62 (0.85)	
Middle school	2.81 (0.88)	
Secondary school	2.71 (0.90)	
College	3.12 (0.93)	
Higher studies	2.64 (0.82)	
Father's educational level		
Illiterate	2.61 (0.81)	.329
Elementary	2.59 (0.89)	
Middle school	2.65 (0.88)	
Secondary	2.79 (0.81)	
College	2.88 (1.1)	
Higher studies	2.72 (0.86)	

Type of family housing		
Rented	2.72 (0.9)	.932
Family owned	2.71 (0.9)	
Monthly household income rating		
Very low	2.75 (0.78)	.139
Low	2.76 (0.84)	
Middle	2.68 (0.87)	
Above average	2.79 (0.81)	
High	2.55 (0.91)	
Very high	3.13 (1.2)	
Type of electronic device used		
iPad	3.15 (0.50)	.076
Smartphone	2.75 (0.87)	
Another device	2.64 (0.84)	
Screen size of the device		
Small	2.78 (0.82)	.531
Medium	2.69 (0.87)	
Large	2.76 (0.79)	
Use of e-device during lectures		
Never	2.55 (0.98)	.003
Seldom	2.66 (0.78)	
Often	2.85 (0.81)	
Quite often	2.88 (0.98)	

A multivariate binary logistic regression showed no significant association between gender and students' odds of having a higher than average social media addiction score ($p = .581$) after accounting for the other predictors in the model. Additionally, there was no significant association between socioeconomic and educational score and students' odds of having a high social media addiction ($p = .904$) after taking the other predictors into consideration. Similarly, family housing type did not correlate significantly with students' odds of having a high social media addiction either. However, the model showed that average hours of daily social media use was positively and significantly associated with higher odds of being addicted to social media ($p < .001$), after controlling for other predictors in the model. The students' self-rated use of social media during lectures had a significant positive correlation with their odds of having a higher than average social media score ($p = .041$), after accounting for other factors in the model.The students' perceptions of the advantages of social media correlated significantly and positively with their odds of having a high social media addiction score, after accounting for other variables. Snapchat use was significantly and positively associated with high odds of being addicted to social media ($p = .042$) after accounting for the other predictors. However, the model suggested that Facebook, Twitter, Instagram, and WhatsApp use, phone type, and screen sizes were not significantly associated with the students' odds of having a high social media addiction score.

Overall, the hours of daily social media use, frequency of social media usage during lectures, Snapchat use, and students' perception of the advantages of social media were predictors of social media addiction. The other predictors did not correlate significantly with addiction to social media.

DISCUSSION

Despite the widespread use of social media by Taif University students, the rate of social networking addiction is low. The number of hours spent on social media and the use of e-devices

during lectures may be major indicators of this addiction. The analyses showed a correlation between Snapchat use, but not other social media tested, and addiction to social media networking. This may be due to several reasons: the ease of using the application and not relying on written texts because images can be viewed and circulated easily, the convenience of using an application that is free of annoying ads, and the ability of users to view live images from the daily lives of celebrities. Of note, Snapchat has previously been a predictor of addiction and has been reported to be more popular than Instagram (Alshehri and Lally 2019).

This study revealed that SNS addiction did not differ significantly between male and female students—a finding that is in line with that reported by other investigators (AlBarashdi and Aldhafri 2019; Koc and Gulyagci 2013), but contradictory to that reported by Andreassen, Torsheim and Pallesen (2014). In a survey conducted among students at an Omani university, AlBarashdi and Aldhafri (2019) did not find statistically significant differences between the genders regarding their addiction to social networking sites. In another study, no statistically significant differences were found between males and females regarding their likelihood to be addicted to Facebook (Salem, Almenaye and Andreassen 2016). Similarly, Koc and Gulyagci (2013) found no statistically significant association between addiction to social networking sites and certain demographic variables, such as the number of hours of employment, gender, age, and educational level. Conversely, the same investigators found that factors such as the number of hours of employment, cumulative rate, and level of family income were significantly associated with social media addiction.

Smartphone addiction has been associated with the daily amount of smartphone use (Alhazmi et al. 2018). In this study, the average hours of daily social media use was significantly correlated with social media addiction and students' perceptions of the advantages of social media. In their study, Andreassen et al. (2014) found that addiction to social networking sites was increasing among users with more hours of employment than normal, male users, younger users, and more educated users. However, this study did not explore other characteristics, such as students' level of studies or extracurricular activities (full-time or part-time job), which may have influenced use of social media.

Many benefits have been associated with the use of social media among students, including being an effective tool for learning because it allows students to get information in a timely manner through different learning platforms and digital libraries, consequently, helping in the learning progress (Sattar et al. 2016). However, social media is considered a negative tool if students use it inappropriately, as was the case in this study when students admitted to using it during lectures. As noted in this study, the use of SNS during lectures was associated with addiction. However, we did not explore whether students used SNS during lectures for academic purposes or as a way to escape from a boring class atmosphere.

This study has all the limitations inherent to cross-sectional surveys, including the difficulty of deriving causal relationships from the analyses. Secondly, the study included students enrolled at Taif University only. Therefore, the findings cannot be extrapolated to the population of students enrolled at universities across other cities in Saudi Arabia. Finally, the study used a convenience sample and self-report scale, which may have introduced a bias in the results. Based on these limitations, we recommend conducting future studies that include other universities in Saudi Arabia. Additionally, because social media usage during lectures and Snapchat use are associated with social networking addiction, future studies should focus on these factors using qualitative data.

CONCLUSION

These analyses suggest that social media addiction is not prevalent among Taif University students based on their perceptions. While social media may be beneficial for students, it is important to maintain a balance so that SNS does not become a negative that puts students at risk of becoming addicted. Universities and faculty

members should develop policies on how to use these sites during lectures and raise awareness among students by creating extension programs or university social media channels that educate students about the best way to use these sites to benefit from them in their studies.

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