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Social network addiction (SNA) related to anxiety among students at Kyaukse University, Mandalay Region, Myanmar

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Abstract

Nowadays, Social Network (SN) is one of the essential tools of people especially young and adolescents. In consequence, there are so many controversial things on advantages and disadvantages of SN. In Myanmar, the rate of mobile phone users and internet users is on the increase today. This is a cross-sectional study conducted to the university students at Kyaukse University from June to November, 2015. In total 400 students who are aged between 16-23 years were randomly selected and interviewed with pretested structured questionnaires. The aim of this study is to determine the prevalence of Social Network Addiction (SNA) and the prevalence of anxiety. Furthermore, this study also found out SNA related to anxiety among students. Among the students, 110 students (27.5%) addicted to SN and 146 students (36.5%) suffered from anxiety. There is significant association between SNA and anxiety. Among the social network addicted users, 59.1% suffer from anxiety (χ^2=33.408, p<0.001). Most of the students who used SN addicted to SN. The students addicted to SN, duration of SN more than 3 years, SN using hours more than 4 hours per day, using Facebook and Google suffer from anxiety. According to the findings in this study, there is a positive association between SNA and anxiety. So parents, teachers and other authorities should be aware and involved in checking and controlling the internet use of the students. In addition, the similar researches should be encouraged in different population and different age groups to explore other side effects of SNA.

Keywords: Social Network, Addiction, Anxiety, University students, Myanmar

Introduction

Social Networking Sites (SNSs) are virtual communities where users can create individual public profiles, interact with real-life friends, and meet other people based on shared interests.[1] SNS usage patterns from both consumer research and empirical research indicate that overall, regular SNS use has increased substantially over the last few years.[1]SNSs are predominantly used for social purposes, mostly related to the maintenance of established offline networks, relative to individual ones. However, recent evidence suggests that individual may feel compelled to maintain their online social networks in a way that may, in some circumstances, lead to using SNSs excessively.[1]The excessive use of online social networking may be problematic to young people.[1] For this research work, Social Network Addiction (SNA) refers to someone spending too much time using Facebook, Twitter and other forms of social media – so much so that it interferes in other aspects of daily life.[2]

Globally, the total population is 7.219 billion and active internet users are 3.038 billion.[3]Moreover, active social media users are 2.126 billion and this is the 29% of the world's population.[3]According to regions, about 45.6% of the world internet users are from Asia and 54.4% are from other regions of the world.[4] In Asia, the country which has the most internet users is China and the second is India.[4]In Myanmar, the total population is 51.4 million and active internet users are 2.6 million which is 5% of the total population.[3] Moreover, active social media users are 3.8 million.[3]

Practice Points

- The excessive use of social networking may be problematic especially to young people.
- In this study, SNA prevalence is 27.5% and the prevalence of anxiety is 36.5% among the university students.
- Among the students who addicted to SN, about 60% suffer from anxiety.
- Moreover, the students who use SN more than 3 years, SN using hours more than 4 hours per day, using Facebook and Google suffer from anxiety.
- Media advocacy should be practiced to make people and policy maker aware of the seriousness of SNA and anxiety.

International estimates of internet addiction widely vary. In a multicenter study, the prevalence of adolescent's internet addiction was reported between 7.9% and 22.8%.[5] SNA prevalence in China study showed that 34% of Chinese college students aged 19 to 28 suffered SNA.[6] A study conducted in Iran revealed that prevalence of internet addiction among university students was 43.7%.[7] Another study reported the internet addiction prevalence among Korean adolescents were 1.6% and 38% had the

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potential for internet addiction.[8] A review reported that the prevalence of internet addiction in the US youth was 26%.[9] In fact, every one in eight US adults addicted to internet.[10] Moreover, there are 1.44 billion Facebook users in the world. Among them, about 936 million people are log on Facebook daily. Among Facebook users, 50% of the young adults who are the age of between 18-24 years are logged on the Facebook in the morning daily.[11] The data about the prevalence of internet addiction in Myanmar are not available yet.

Reports indicated that most of these conditions are highly prevalent among younger age group. The prevalence of adolescent's internet addiction was reported between 7.9% and 22.8%.[5] About 50% of internet users who are aged between 18 and 25 are firstly logged in Facebook every morning as soon as they woke up.[11] University students have wider and easier access to the internet connection by means of mobile devices. Therefore, they can easily log in to the social network sites wherever they go. As a consequence, the internet users do not need to be at home to use the internet. They can easily connect to the internet outside the houses such as in the cafes, restaurants, universities.[12] Myanmar is also one of the countries with increasing trend in internet users. Mobile internet users study in Myanmar indicated that 72% of the participants were used mobile internet daily.[13] Most of the participants 38% are the age of between 16-24 years old.[13] In Myanmar, however, the data for SNA and related to anxiety has not been investigated widely yet. This study was conducted with the specific objectives of assessing the prevalence of SNA, the prevalence of anxiety and determining the SNA related to anxiety.

Conceptual Framework

Figure 1 shows the conceptual framework of the study. SNA can lead to physical disorders, social disorders and psychological disorders. Physical disorders mean sleep disturbance, back strain, eye strain etc., and social disorders mean poor academic performance and family problems etc. Psychological disorders mean anxiety, stress and depression. In this study, it was tried to assess the relationship between SNA and anxiety which is one of the psychological disorders.

Materials and methods

Sampling method and sampling procedure

In Kyaukse University, there are total 11 majors and the number of total students is 4764. Among them, eight majors were randomly chosen and these majors are History, Geography, Geology, Chemistry, Physics, Mathematics, Zoology and Botany. The total number of students who used SN in these eight majors is 4097. Then, sample size is randomly chosen from these eight majors based on probability proportionate to size. So, the sample size is collected as 6 out of 54 (1.31 %) from history major, 8 out of 74 (1.8 %) from geography major, 41 out of 444 (10.83 %) from geology major, 86 out of 874 (21.33 %) from chemistry major, 86 out of 885 from physics major, 89 out of 898 (21.9 %) from mathematics, 44 out of 455 (11.1 %) from zoology and 41 out of 413 (10.8 %) from botany. Then, the total sample size is 400.

Data collection tool and technique

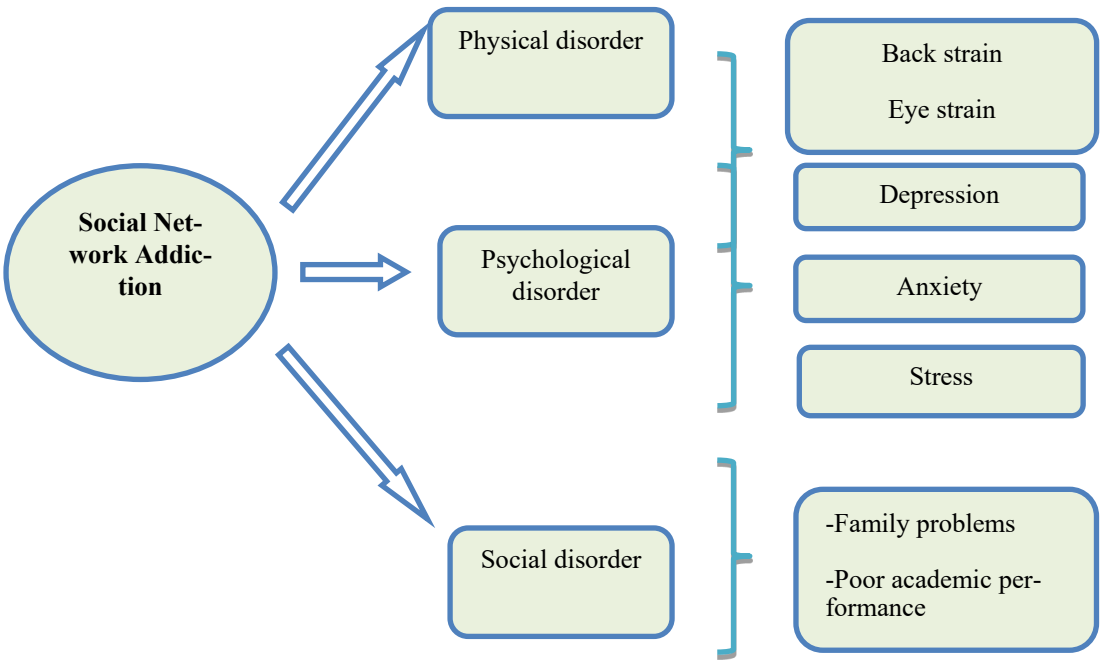
Quantitative data collection method involving face to face interview applying pre-tested structured questionnaire was used. Internet Addiction Scale and Self Rating Anxiety Scale were used in this study.

Internet Addiction Test

Internet addiction test was assessed by Young's 20 items Internet Addiction Test (IAT)[14] which was modified by Kittinger et al.[15] in 2012. Total score of this scale was 100 and cut-off point was 49:

20-49 = Normal Internet user
50-100 = Addicted Internet user

Figure 1: Conceptual Framework of the study



Self-Rating Anxiety Scale (SARS)

This scale is designed to measure the state anxiety as experienced by the patient by giving his own ratings on four-point scale 0, 1, 2, and 3. The final 24 items check-list was developed by Dr. Ohn Hlaing and Dr. Ohn Kyaw from the 82-items check-list of anxiety complaints collected on the basis of anxiety scales developed in other countries, text-books and the authors' account of patients with anxiety states.[16] A cross-validation study was done on 50 clinically diagnosed anxiety cases and 52 normal individuals by Dr. Ohn Hlaing and Dr. Ohn Kyaw.[16] By taking the score 9 as the cut-off point, 98% of clinically anxious patients were correctly classified by this scale, misclassification rate was only 2 false negatives. Severity of anxiety classified by the scores was validated against the clinician's rating of anxiety, and the validity computed in contingency coefficient was found to be 0.64 (p-<0.001). A split half reliability study by content was done on the validation sample, and the reliability coefficient calculated in spearman's rho was 0.86 after correction by Spearman-Brown formula.[16]

- Total score = 72
- Cut-off point = 9
- Non-anxious group = 0-9
- Anxious group = 10-72

Before data collection, Cronbach's alpha test was calculated for all questionnaires such as Internet Addiction Scale and Self-Rating Anxiety Scale that used in this study. Cronbach's alpha for Internet Addiction Scale was 0.926 and Self-Rating Anxiety Scale was 0.930 for the population.

Data management and analysis

The coding in the questionnaires form was checked and double data entry and validation of two data files was done by using Epidata software version 3.1. Data was checked for completeness, errors and inconsistency after data collection. The background information and social network utilization patterns, prevalence of social network addiction and prevalence of anxiety of the respondents were firstly presented by using descriptive statistics such as frequency and percent. The association between social network addiction, anxiety, background information and social network utilization patterns were determined by Chi-square test and p value of equal or less than 0.05 was taken as the significant level by using SPSS version 16.0.

Ethical consideration

Ethical consideration was obtained from Post- Graduate Board of Studies Defence Services Medical Academy (DSMA). After obtaining the participation of the students with informed consent form, the students were interviewed by questionnaires.

Results

Table 1 shows the details of socio-demographic characteristics of the respondents. Regarding socio-demographic characteristics of the respondents, 289 respondents (72.2%) were adolescent who were age between 16-19 year old and the rest 111 (27.8%) were young adult who are the age of between 20-23 year old. Among the students, 166 students (41.5%) are males and 234 students (58.5%) are females. Regarding years of SN used, 31 (7.8%) of the students have used SN for more than 3 years, 82 (20.5%) have used 2 years, 150 (37.5%) have used SN from 6 months to 1 year and 137 (34.2%) have used SN for less than 6 months. According to SN using hours per day, about 161 (40.2%) are spent on SN for less than 1 hour, 118 (29.5%) of the respondents are used about 1 hour a day for SN, 63 (15.8%) spent on SN for about 2 hours, 35 (8.8%) spent on SN for about 3 hours and only 5.8% of the respondents spent about 4 hours and above for SN. Regarding phone bill, 388 students (97%) of the respondents are cost less than 30000 kyats a month for phone bill and 12 (3.0%) of the respondents are cost more than 30000 kyats for it. Moreover, 295 students (73.8%) are using Facebook and 57 students (14.2%) are using Google.

Regarding the prevalence of SNA and anxiety among the respondents, 110 (27.5%) of the respondents are SN addicted users and 146 students (36.5%) of the respondents suffer from anxiety (Table 2).

Table 3 shows the association between socio-demographic factors, SNA and anxiety. According to duration of SN used, about 46 (33.6%) of the students who used SN for less than 6 months, about 43 (28.7%) of the students who used SN between 6 months and 1 year, about 34 (41.5%) of the students who used SN about 2 years and about 23 (74.2%) of the students who used SN more than 3 years suffer

Table 1: Socio-demographic characteristics of the students (n=400)

Socio-demographic factors	Frequency (%)
Age	
Young adult(20-23 yr)	111 (27.8%)
Adolescent(16-19 yr)	289 (72.2%)
Sex	
Male	166 (41.5%)
Female	234 (58.5%)
Duration of social network used	
<6 months	137 (34.2%)
6 months-1 year	150 (37.5%)
About 2 years	82 (20.5%)
About 3 years and above	31 (7.8%)
Social Network using hours per day	
<1 hour	161 (40.2%)
About 1-2 hours	118 (29.5%)
About 2-3 hours	63 (15.8%)
About 3-4 hours	35 (8.8%)
>4 hours	23 (5.8%)
Phone bill per month	
≥30000 kyats	12 (3%)
<30000 kyats	388 (97%)
Facebook user	295 (73.8%)
Google user	57 (14.2%)

Table 2: SNA and anxiety prevalence among students (n = 400)

Prevalence	Respondents (%)
SNA	
Addicted user	110 (27.5%)
Normal user	290 (72.5%)
Anxiety	
Anxious group	146 (36.5%)
Non-anxious group	254 (63.5%)

Table 3: Association between socio-demographic factors, SNA and anxiety (n = 400)

Variables	Anxiety Frequency (%)		χ^2	*p* value
	AG	NAG		
Age				
Young adult(20-23yrs)	49 (44.1%)	62 (55.9%)	3.873	0.49
Adolescent(16-19yrs)	97 (33.6%)	192 (66.4%)		
Sex				
Male	67 (40.4%)	99 (59.6%)	1.826	0.177
Female	79 (33.8%)	155 (66.2%)		
Duration of social network used				
<6 months	46 (33.6%)	91 (66.4%)	24.35	< 0.001
6 months - 1 year	43 (28.7%)	107 (71.3%)		
About 2 years	34 (41.5%)	48 (58.5%)		
>3years	23 (74.2%)	8 (25.8%)		
Social network using hours per day				
< 1 hour	46 (28.6%)	115 (71.4%)	19.03	0.001
About 1-2 hours	42 (35.6%)	76 (64.4%)		
About 2-3 hours	23 (36.5%)	40 (63.5%)		
About 3-4 hours	20 (57.1%)	15 (42.9%)		
>4 hours	15 (65.2%)	8 (34.8%)		
Phone bill/month				
≥30000 kyats	8 (66.7%)	4 (33.3%)	4.857	0.028
<30000 kyats	138 (35.6%)	150 (64.4%)		
Facebook				
Yes	118 (40%)	177 (60%)	5.94	0.015
No	28 (26.7%)	77 (73.3%)		
Google				
Yes	28 (49.1%)	29 (50.9%)	4.57	0.033
No	118 (34.4%)	225 (65.6%)		
SNA Group				
Addicted User	65 (59.1%)	45 (40.9%)	33.408	<0.001
Normal User	81 (27.9%)	209 (72.1%)		

from anxiety (χ^2 = 24.351, *p*- <0.001). This means that the duration of SN used and anxiety are statistically significantly associated with anxiety.

According to social network using hours, about 46 (28.6%) of the students who used SN for less than 1 hour per day, about 42 (35.6%) of the students who used SN between 1 and 2 hours per day, about 23 (36.5%) of the students who used SN about 2-3 hours per day, about 20 (57.1%) of the students who used SN more than between 3-4 hours per day and 15 (65.2%) of the students who used SN about more than 4 hours per day suffer from anxiety (χ^2 = 19.03, *p*- 0.001). Thus, it can be assumed that the prolong duration of SN used are statistically significantly associated with anxiety.

According to phone bill per month, 8 (66.7%) of the respondents who are cost 30000 kyats and 138(35.6%) of the respondents who are cost less than 30000 kyats a month for phone bill suffer from anxiety. (χ^2=4.857, *p*-0.028). So it can be assumed that the students who are cost more than 30000 kyats for phone bill per month are statistically significantly associated with anxiety.

According to Facebook usage, 118 (40%) of the respondents are suffer from anxiety (χ^2=5.94, *p*-0.015).According to Google usage, 28 (49.1%) of the respondents who use Google suffer from anxiety (χ^2=4.57, *p*-0.033).This mean that the Facebook and Google usage are statistically associated with anxiety.

Regarding SNA, 65 students (59.1%) of SN addicted users suffer from anxiety and SNA are statistically significantly associated with anxiety. Thus, it can be assumed that anxiety is associated with SNA.

Discussion

The excessive use of SNs and SNA related to complications have become a problematic to people especially youth. This study is aimed to find out the prevalence of SNA, associating factors of SNA and SNA related anxiety among the university students.

In this study, the prevalence of SNA is about 28% and the anxiety is about 37%. In the study of Azher *et al.*,[17] the prevalence of internet addiction is 36.5%. In an another study, SNA prevalence in China study showed that 34% of Chinese college students aged 19 to 28 years are suffered SNA.[6] A study conducted in Iran revealed that prevalence of internet addiction among university students was 43.7%.[7] Another study reported that the internet addiction prevalence among Korean adolescents were 1.6% and 38% had the potential for internet addiction.[8] In a multicenter study, the prevalence of adolescent's internet addiction was reported between 7.9% and 22.8%.[5] Moreover, a review reported that the prevalence of internet addiction in the US youth was 26%.[9]

Internet addiction can contribute to 45% of depression, 40% of the anxiety and 40% of the stress.[18] One of the worst effects of internet addiction is anxiety, stress and depression. Increase

in using internet makes some problems that one of them is anxiety.[19] In the study of Nima *et al*.,[19] it was revealed that there exists a positive and significant correlation between the level of anxiety and internet addiction.[19] According to the study of Razieh *et al*.,[20] it was also found that internet users have a higher anxiety level than non-internet users (80.75% and 28.5%) respectively. In this study, about 60% of SN addicted users account for anxiety. Moreover, there was also statistically significant association between SNA and anxiety in this study (p<0.001).

Among the students, about 67% of the students who are cost more than 30000 kyats a month for phone bill suffer from anxiety and the students who are cost more than 30000 kyats a month for phone bill have a higher risk to occur anxiety than that of less than 30000 kyats a month in this study (χ^2=4.857, p-0.028). In the study of Khang *et al*.[21] it was identified that compulsive anxiety as a factor in mobile phone addiction. University students have wider and easier access to the internet connection by means of mobile devices.[12] Drouin *et al*.[22] mentioned that text messaging addiction and phantom vibrations might just be contemporary versions of social sensitivity or social anxiety.

According to duration of SN used, about 75% of the students who used SN for more than 3 years suffer from anxiety (χ^2=24.351, p-<0.001). Furthermore, about 65% of the students who used SN for more than 4 hours per day suffer from anxiety (χ =19.03, p- 0.001). In another study, there are 1.44 billion Facebook users in the world. Among them, about 936 million people are log on Facebook daily. Among Facebook users, 50% of the young adults who are the age of between 18-24 logged on to the Facebook in the morning daily.[11] In the study of Sharif *et al*.,[23] Facebook users who use Facebook more than 4 hours per day are likely to addict Facebook. Moreover, it is said that internet addiction account for 40% of anxiety in the study of Akin *et al*.[18] So, it can be assumed that using Facebook can lead to SNA and SNA can be associated with anxiety. In this study, about 40% of the students who used Facebook suffer from anxiety and Facebook users have more risk to suffer from anxiety than non-Facebook user (χ^2=5.94, p-0.015). Among the students, about 50% of the students who used Google suffer from anxiety and Google users have more risk to suffer from anxiety than non-Google users (χ^2=4.57, p-0.033).

There have some limitations in this study. The first one is the mental health status of the students and other associated factors of mental health could not be assessed before the study. Another one is that other psychological side effects of SNA such as depression and stress could not be explored in the study. And the last one is that the study population in this study was selected from Kyaukse University and it may not be represented the whole university students in Myanmar.

Conclusion

This study has contributed to understanding of the relationship between SNA and anxiety. Among the students, the prevalence of anxiety is about 37% and some factors such as SNA, duration of SN used, SN using hours, phone bill, using Facebook and Google are risk factors for anxiety. Regarding SNA, the prevalence of SNA is 27.5% and about 60% of SNA students suffer from anxiety. Besides, there is positive association between SNA and anxiety (χ^2 = 33.408, p-< 0.001). It is consisted with the studies of Azher *et al*.[17] and Akin *et al*.[18] SNA and its related problems should be considered as a serious problem among the adolescents. Based on the findings of this study, it is necessary for adolescents and young adults to be educated concerning with the advantages and disadvantages of SN in order to prevent from SNA. Moreover, because SNA can contribute a negative impact on every age group, similar research should be performed in different age groups.

Competing interest

The authors declare that they have no competing interests.

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