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Online social networking and its relationship with mental health and emotional intelligence among female students

Tenzit Tyagi *, Santosh Meena

Department of Psychology, Banasthali Vidyapith, Rajasthan, India

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ABSTRACT

Over the past two decades, online social networking (OSN) is serving as a ubiquitous means of communication. The main objective behind this research is to discover the relationship between online social networking and mental health, emotional intelligence, respectively. Pearson's correlation coefficient is applied as multi-variate analysis, to assess the association between OSN, mental health and emotional intelligence. The negative correlations between OSN and mental health (−0.133) and OSN and emotional intelligence (−0.198) suggest that excessive use of OSN is detrimental to mental health and emotional intelligence. The study found that comparatively younger children have higher practice of OSN and so having lower emotional intelligence than the older ones. But in case of Mental health, relatively, older female adolescents have experienced the mental health problems. Present study concluded that there is significant relationship between online social networking, mental health and Emotional intelligence.

1. Background

Over the past two decades, online social networking (OSN) is serving as a ubiquitous means of communication. It has transformed the interpersonal communication by building and expanding the social capital around the globe.[1] And, yet increasingly taking up more time in a day over the years.[2]

However, little is known about users' personality traits and the potential consequences of extreme social media use during critical developmental times. Facebook, Twitter, WhatsApp, Snapchat, Instagram, Myspace, LinkedIn, Google+, YouTube, and Facebook Messenger are some popular online social networking apps today. Each of these has its own distinct manner of enticing users to use them for an extended period, resulting in addiction. For instance, according to a study by Akua Adoasi out (2015), he found that out of 200 respondents, more than half of the respondents use WhatsApp on a regular basis followed by Facebook which has over a quarter of the respondents used it regularly. Just a little over a fifth of the respondents said they use twitter regularly and 32 (10.6%) others said it was Instagram they used more often. Further, majority of respondents (35%) said they spend four or more hours on social media daily. Other respondents (17%) said they spent 2 h on social media a day, another 17% of the respondents also said they spend 1 h on social media daily. Three hours is spent on social media by 15.5% of the respondents daily, while the other remaining 15.5% said they spend less than an hour on social media a day.

This extreme use of OSN sometimes negatively affect mental health and emotional intelligence of the users. Several researches have been done to understand the possible influence of online social networking on a variety of psychiatric illnesses, including depression, anxiety, and low self-esteem among adolescents.[3–5]

This issue is particularly vexing because prior studies provided mix clues about how online social networking influence subjective well-being. There are some studies that show, online social networking may affect mental health significantly.[6,7] For instance, one of important study by Kraut et al., they found that increased time spent online is related to a decline in communication with family members, as well as the reduction of the internet user's social circle, which further lead to increased feelings of depression.[7]

However, other set of literatures contradict this finding.[8,9] Such as, a recent study completed in 2013 by Kross et al., presented findings of their study on relationship between Facebook use and subjected well-being among young adults. A conventional set of questionnaires, such as Beck Depression Inventory, Rosenberg Self-Esteem Scale, Social Provision Scale, and Revised UCLA Loneliness Scale. They found that it was not the case that Facebook use led to declines in well-being because people are more likely to use Facebook when they feel bad.[10]

* Corresponding author.
E-mail address: tyagitenzit@gmail.com (T. Tyagi).

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Dissimilarly, it was observed that not many works have been done to find the link between social media addiction and emotional intelligence. previous studies have found, online social networking can modulate emotional states too.[11,12] According to another study, conducted on randomly selected 120 students in Darbhanga. They found, 13.33% had below average level of internet addiction, 59.16% had average level, 25% had above average and 2.5% were strongly affected by internet addiction. Moreover, they concluded an inverse relationship between the internet addiction in terms of social networking use and emotional intelligence of students, however this negative relationship was not significant.[13]

Some of these studies concluded that excessive technology users tend to be lonely which may have resulted from their low emotional and interpersonal abilities. Also, there is little doubt that problematic use of technology is a maladaptive coping strategy against problems in everyday life struggles and difficulties, which is demonstrated by individuals who are experiencing personality and psychosocial problems.[14] Therefore, it is both theoretically and empirically logical to expect from individuals who have low emotional intelligence to engage in higher problematic use of social media when compared to those with higher emotional intelligence. As this relationship is found to be such a young phenomenon, the issue remains controversial and unsolved. Henceforth, main purpose of this article is to discover the relationship between online social networking and mental health, emotional intelligence, respectively from three Indian cities viz. Jaipur, New-Delhi and Lucknow.

2. Statement of the problem

Since last few decades, technology emerged quickly and undeniably. It has very vital role in people's lives today. The growth of social networking is one example of this. Access to information is always immediate thanks to social media.[15] It might appear innocent at the surface, however it might has another negative characteristics also what require further study on this. One of the issues that students become distracted because of the amount of time and attention being devoted to these online social networking.

Even during school hours, when kids are supposed to be engaged in productive activities, they are frequently seen using their cell phones for social interaction and communication. As a result, social networking, especially on activities that bring no value, consumes this precious time. According to Ref. [16]; at least one-third of student Internet visits are made with the intention of visiting sexually explicit websites and chat rooms. Additionally, it has been noted that some students utilise email and social networking sites to publish objectionable remarks about their friends, occasionally to harass other students, and for gossip.[16] These kids are frequently observed walking the streets while distracted by their mobile phones and other modern equipment, not paying much attention to their surroundings. Therefore, this study is an effort to understand the possible influence this online social networking and its relationship with mental health and emotional intelligence.

3. Significance of the study

Students, Parents, and Teachers will all greatly benefit from the study. Students who need to acquire time management and balance in order to make significant contributions to the advancement of society would benefit most from the study. They should research the advantages of social networking, as it will improve their technical and creative abilities, but not at the price of their main duty of reading.

4. Scope of the study

The scope of this study is on the influence of online social networking on female students in three cities of India viz. Delhi, Jaipur, and Lucknow. It focuses on determining the extent to which female students make use of social networking, the social networking sites mostly visited, the various devised to practice OSN, the time students invest into it. It also focuses on the relationship of OSN and mental health and emotional intelligence.

5. Operational definition

Online Social Networking (OSN): A set of eighteen questions are prepared to assess the nature and time spent on online social networking by the participants. The responses of these items are on a likert scale of 1–5 for Strongly Disagree, Disagree, Neutral, Agree, and, Strongly Agree, respectively. Based on these [17] items a score is generated and tercile is calculate, viz. The highest tercile (i.e. $\geq$66.7th percentile), middle tertile (i.e. >33.3rd and <66.7th percentile) and lowest tercile (i.e., $\leq$33.3rd percentile). Tertiles are used to permit the comparison of the relative impact of higher, medium or lower online social networking level with respect to other factors.

Mental Health Inventory (MHI): The mental health inventory developed by Singh and Srivastava (1983), was based on 56 items. This inventory included 32 'false keyed' or reverse scoring based, and 24 'true keyed' items. These items need to be rated on a 4 point scale as 'always; 'mostly; sometimes; and 'never. Female respondents, who have scored less than 133 are considered as very poor; 134–153 are Poor, 154–174 are Average; 175–195 are Good and whose score are more than 195 are considered as very good mental health condition. This inventory comprised of total 6 dimensions viz., 1) positive self- evaluation, (2) realistic perception (3) integration of personality (4) autonomy (5) group- oriented attitude (6) environment mastery.

Emotional Intelligence (EI): In 1993 Mayer and Salovey identified Emotional Intelligence as "a form of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and action". After this, Daniel Goleman[18] wrote a book, Emotional Intelligence, which highlights five qualities (Social Skill, Empathy, Self-regulation, Self-awareness & Motivation) that combine to create emotional intelligence. Alongside the virtual world is the real world where students need to learn and succeed in life depending on intelligence and control of emotions. Aside from IQ alone, the measure of success includes emotional intelligence, social intelligence, and luck.[19] So, Emotional Intelligence is an important competency to become successful in all domain of life.

This inventory can be used with students above 16 years of age. It has 100 items from four below-described areas to be answered as Yes; or No . For scoring, 1 mark will be provided for the response indicating the presence of emotional intelligence and 0 will be provided for the absence of emotional intelligence. The scoring of the emotional intelligence index is done like, the female respondents are scoring less than 47 are Very poor; 48–60 are Poor; 61–74 are Average; 75–87 are Good; and more than 88 are considered in Very good Emotional intelligence condition.

6. Methods and materials

6.1. Description and recruitment of the study sample

The current study comprised sample size of 505 female participants in the age group 19 to 35. The study included only female participants because women worldwide are highly predisposed to high stress both inside and outside their homes. And even though mental health of females is something that should be highly prioritised, there are few studies which solely focus on them. All the national level surveys of India like LASI and SAGE which has mental health data focus on the elderly or older adults and hence the youth and specially women have always been left out. The study is hence an attempt to understand the association between usage of social networking sites, mental health and emotional intelligence of the younger college going women of the

country. It can be generalised and can form a base for various studies in the future.

6.2. Research method and data collection

The study utilised cross-sectional quantitative design with purposive sampling technique. Real time data was collected using the online mobile application based on a pre-designed structured questionnaire containing quantitative questions, which included basic socio-demographic characteristics of the participants along with their social networking, mental health and emotional intelligence aspects. The mobile application was designed with data validation for quality data collection. Participants provided informed consent and completed the questionnaires voluntarily and anonymously. Face-to-face interviews were conducted in Hindi and English. Participants were mainly undergraduate as well postgraduate students from three cities of India, namely, Jaipur, New Delhi and Lucknow. All participants were informed regarding the sole criterion for inclusion to the study.

6.3. Statistical analysis

Percentage distribution of OSN, mental health and emotional intelligence have been demonstrated with respondents' background characteristics, by using bi-variate analysis. Further, in multi-variate analysis, Pearson's correlation coefficient technique is applied to assess the association between OSN, mental health and emotional intelligence.

7. Results

Table 1 shows the percentage distribution of background characteristics among respondents who have used OSN, preceding the survey. Overall, the total observations are 505. Majority of female students, i.e., around 63% belong to the age group of (17–24) years. When it comes to educational level, around 53% of the females were educated up to undergraduate level. A large portion of the female students which is about 84% belong to the frequent use of OSN and, rest students practice OSN occasionally and rarely.

This is interesting to observe that only 9% students are they who use only *One* Social Networking Site, while there are around 31% student use *Three*, followed by 45% who use *Four to Five* sites and lastly, around 15% who use more than *Six* websites for OSN. Around 54% students belong to that strata who check *Three to Six* time their social networking sites which is highest, after that around 15% students who check their social networking sites on every notification beep.

Further, there are around 55% student who spent around *Three to Six hours* on social networking sites, which is highest, followed by around 21% students who spent *One to Two hours* daily for the same. If we notice, percentage distribution of this population, then it is very surprising to observe that around 28% females are using these social networking sites sine *Seven and Above years*. And only, 2% are there who started using these site since *Less than one year ago*.

Table 2 illustrates the percentage distribution of OSN by background characteristics. Nearly 52% of the respondents in the age group of 30–35 years reported high usage of OSN, whereas in the age group of 17–24 years, the percentage reduced to 29.7%. Coming to educational level, undergraduates had shown a greater percentage of high OSN usage (42.4%) than postgraduates (25.8%). In cities like Jaipur, about 60% of the female students reported high usage of OSN, whereas in Delhi (41.2%) and Lucknow (45.8%), a greater percentage of students reported low usage of OSN. Moreover, among those who preferred mobile for the use of social networking sites, the percentage share of high OSN was 36.6%, whereas among desktop and laptop users, it was 16.7% and 17.5%, respectively. Furthermore, students who only used one networking site showed a greater percentage of low OSN (47.2%). Students who spent more than 7 h per day on social networking sites had a greater percentage of high OSN (57.5%) than the other categories.

Table 1
Percentage distribution of background characteristics among respondents who are practicing Online Social Networking, preceding the survey.

Background characteristics	Percentage	N
Age		
(17–24) Years	62.8	317
(25–29) Years	32.7	165
(30–35) Years	4.6	23
Education		
Undergraduate	53.3	269
Postgraduate	46.7	236
City		
Jaipur	40.2	203
Delhi	26.9	136
Lucknow	32.9	166
Uses of Social Networking Sites		
Yes	84.4	426
Occasionally and Rarely	15.6	79
Preferred device for using Social Networking Sites		
Desktop computer	2.4	12
Laptop	7.9	40
Mobile	89.7	453
Number Social Networking Sites		
One	9.1	46
Three	30.7	155
Four to Five	45.3	229
Six and Above	14.9	75
Times check Social Networking Sites		
On every notification beep	14.5	73
1-2 times per day	17.6	89
3-6 times per day	53.7	271
9+ times per day	14.3	72
Time spent on Social Networking Sites		
Less than 1 h	15.8	80
1–2 h	21.4	108
3–6 h	54.9	277
7+ hrs	7.9	40
Duration of using Social Networking Sites		
Less than one year ago	2.4	12
1–2 yr	10.1	51
3–6 yr	59.0	298
7+ yrs	28.5	144
Total	**100**	**505**

Table 3 presents the percentage distribution of the mental health score of the participants by background characteristics. About 61.3% of undergraduate students had very poor mental health scores against 56.4% of postgraduate students. Among cities, Lucknow had the highest percentage of female students with very poor mental health scores. Furthermore, the percentage of very poor mental health scores was highest among mobile users, i.e., 61.8%, as compared to desktop (33.3%) or laptop users (35%). Nevertheless, the chi-square test revealed no significant association between covariates and mental health score, with the exception of the city variable.

Table 4 shows the percentage distribution of emotional intelligence scores among female students by different background characteristics. Except for factors like usage of social networking sites, number of social networking sites used, and duration of use of social networking sites, the chi-square test revealed a significant association of covariates with emotional intelligence scoring. About 7.6% of students aged 17–24 years had very good emotional intelligence scores. However, the percentage decreased substantially with the increase in age. Likewise, nearly 7.6% of postgraduate students had very good emotional intelligence score against 3.3% among undergraduates. Among the cities, Lucknow had the highest percentage of students (15.1%) with very good emotional intelligence scores. Moreover, students who spent more than 7 h on social networking sites showed the lowest percentage of good and very good emotional intelligence.

Table 5 presents the correlation matrix of OSN, mental health and emotional intelligence. The negative correlations between OSN and mental health (−0.133) and OSN and emotional intelligence (−0.198)

Table 2
Percentage distribution of Online Social Networking with background characteristics.

Covariates	Online-Social Networking				
	Low	Medium	High	Chi-value	p-value
Age-groups					
17–24	36.3	34.1	29.6	11.34	0.023
25–29	27.9	30.3	41.8		
30–35	17.4	30.4	52.2		
Education Level					
Undergraduate	27.9	29.7	42.4	15.48	0.000
Post-graduate	38.1	36	25.8		
City					
Jaipur	16.3	24.1	59.6	97.38	0.000
Delhi	41.2	40.4	18.4		
Lucknow	45.8	36.7	17.5		
Use Social Networking Sites					
Yes	53.2	24.1	22.8	17.97	0.000
Occasionally/No	28.9	34.3	36.9		
Preferred device to use Social Networking Sites					
Desktop computer	66.7	16.7	16.7	12.90	0.012
Laptop	45	37.5	17.5		
Mobile	30.7	32.7	36.6		
Number of Social Networking Sites you use activity					
One	47.8	28.3	23.9	31.10	0.000
Thee	36.1	18.1	45.8		
Four to Five	27.5	41.9	30.6		
Six and Above	32	37.3	30.7		
Number of times do you check your Social Networking Sites accounts per day					
On every notification beep	28.8	35.8	35.4	6.92	0.140
3-6 times per day	33.3	36.1	30.6		
9+ times per day	38.9	25.9	35.2		
Time spent on Social Networking Sites per day					
Less than 1 h	48.8	23.8	27.5	26.62	0.000
1–2 h	39.8	27.8	32.4		
3–6 h	27.8	37.9	34.3		
7+ hrs	15	27.5	57.5		
Duration of using Social Networking Sites					
Less than one year ago	50	25	25	8.05	0.234
1–2 yr	39.2	35.3	25.5		
3–6 yr	31.5	35.2	33.2		
7+ yrs	31.3	27.1	41.7		
Total	165	165	175		

Table 3
Percentage distribution of Mental Health with background characteristics.

Covariates	Mental Health Score				
	Very Poor	Poor	Average	Chi Square	P value
Age-group					
17–24 yrs	58.7	37.5	3.8	4.28	0.370
25–29 yrs	57.6	40.6	1.8		
30–35 yrs	73.9	21.7	4.3		
Education Level					
Undergraduates	61.3	35.3	3.3	1.54	0.463
Post-Graduate	56.4	40.7	3.0		
City					
Jaipur	59.1	35.0	5.9	42.34	0.000
Delhi	41.2	57.4	1.5		
Lucknow	73.5	25.3	1.2		
Use Social Networking Sites?					
Yes	51.9	45.6	2.5	2.41	0.300
Occasionally & Rarely	60.3	36.4	3.3		
Preferred device to use Social Networking Sites					
Desktop computer	33.3	58.3	8.3	15.67	0.003
Laptop	35.0	57.5	7.5		
Mobile	61.8	35.5	2.6		
Number of Social Networking Sites you use activity					
One	63.0	32.6	4.3	8.51	0.203
Three	60.0	34.8	5.2		
4 to 5	60.7	38.0	1.3		
6 and above	49.3	46.7	4.0		
Number of times do you check your Social Networking Sites accounts per day					
On every notification beep	57.5	39.7	2.7	2.82	0.831
1-2 times per day	55.1	41.6	3.4		
3-6 times per day	60.1	37.3	2.6		
9+ times per day	61.1	33.3	5.6		
Time spent on Social Networking Sites per day					
Less than 1 h	48.8	47.5	3.8	11.59	0.072
1–2 h	63.0	35.2	1.9		
3–6 h	61.4	36.1	2.5		
7+ hrs	52.5	37.5	10.0		
Duration of using Social Networking Sites					
Less than one year ago	33.3	66.7	0.0	7.11	0.311
1–2 yr	54.9	43.1	2.0		
3–6 yr	61.1	36.2	2.7		
7+ yrs	58.3	36.8	4.9		

suggest that excessive use of OSN is detrimental to mental health and emotional intelligence. Furthermore, the analysis found a negative correlation between mental health and emotional intelligence (−0.488).

8. Discussion

The purpose of the present study was to see if there was a link between social networking, mental health, and emotional intelligence among female students. The findings validated the premise that there is a link between female internet users' usage of social networking, mental health, and emotional intelligence.

We observed, many studies did not investigate potential confounding factors that may affect in terms of enhancing or reducing mental health or emotional intelligence. It's possible, for example, that people with certain personality disorders (which are common and often go undiagnosed) spend significantly more time on online social networking than the general population because computer-mediated communication allows them to be more socially successful.

Moreover, we always have in mind that not all online social networking indicator, found in literature are same. Most of the studies have discussed about the social networking sites (SNS) viz, Facebook and Instagram, as an addiction, where respondents upload pictures, videos and do likes and comments. For instance, Studies found internet addiction appears to be associated with mental disorders in adolescents.[20] This may be stressful life experiences in adolescents.[21,22] In another study, it is found that Social media addiction to be positively connected with mental health, specifically mental health symptoms, with the higher the level of social media addiction, the higher and more noticeable the mental health symptoms in a person.[23] However, very few studies discussing about online social networking in terms of social development where they can express their thoughts and opinions.[24]

The current study confirmed that there is negative correlation between OSN and mental health and emotional intelligence, respectively. Though the strength is not strong but significantly associated with each other. A study confirms that poor emotional intelligence (EI) predicts a preference for online social interactions.[25] According to a study by Xanidis and M.Brignell, more reliance on social networking sites was linked to increased everyday cognitive failures.[26]

Further, our study found negative and stronger correlation between mental health and emotional intelligence. There are other studies to, which has almost similar findings. For instance, A study by Sharma, also found the same that internet addiction and short-term memory significantly and negatively correlated with each other, (Sharma A, 2017). Another study by Casale and fellow researcher in year 2013, showed a significant negative relationship between emotional intelligence and perceived stress.[25] A study suggest that emotional intelligence plays a mediating role in the link between psychological health and stress in terms of its impact on health. It suggests that persons who have a high emotional intelligence score are better able to deal with environmental demands than those who have a low score.[27]

Table 4
Percentage distribution of Emotional Intelligence with background characteristics.

Covariates	Emotional Intelligence Scoring						
	Very Poor	Poor	Average	Good	Very Good	Chi Square value	P-value
Age							
(17–24) Years	17.4	51.7	14.5	8.8	7.6	19.656	0.012
(25–29) Years	13.9	49.1	23.0	12.1	1.8		
(30–35) Years	4.3	52.2	21.7	21.7	0.0		
Education							
Undergraduate	14.5	56.1	17.5	8.6	3.3	9.984	0.041
Postgraduate	16.9	44.9	17.8	12.7	7.6		
City							
Jaipur	12.8	64.5	19.7	2.5	0.5	158.170	0.000
Delhi	17.6	69.9	6.6	5.1	0.7		
Lucknow	17.5	18.7	24.1	24.7	15.1		
Uses of Social Networking Sites							
Yes	15.2	62.0	11.4	5.1	6.3	7.159	0.128
Occasionally and Rarely	15.7	48.8	18.8	11.5	5.2		
Preferred device for using Social Networking Sites							
Desktop computer	8.3	83.3	0.0	0.0	8.3	16.274	0.039
Laptop	12.5	72.5	10.0	2.5	2.5		
Mobile	16.1	48.1	18.8	11.5	5.5		
Number Social Networking Sites							
One	19.6	39.1	19.6	13.0	8.7	17.371	0.136
Three	13.5	50.3	25.2	7.7	3.2		
Four to Five	14.4	54.6	14.0	10.9	6.1		
Six and Above	21.3	48.0	12.0	13.3	5.3		
Times check Social Networking Sites							
On every notification beep	24.7	56.2	12.3	2.7	4.1	26.640	0.009
1-2 times per day	16.9	55.1	14.6	7.9	5.6		
3-6 times per day	10.7	52.4	19.9	12.2	4.8		
9+ times per day	23.6	34.7	18.1	15.3	8.3		
Time spent on Social Networking Sites							
Less than 1 h	13.8	61.3	12.5	7.5	5.0	29.644	0.003
1–2 h	16.7	38.9	26.9	9.3	8.3		
3–6 h	15.9	48.7	17.7	12.6	5.1		
7+ hrs	15.0	77.5	2.5	5.0	0.0		
Duration of using Social Networking Sites							
Less than one year ago	16.7	41.7	25	16.7	0.0	10.480	0.0.574
1–2 yr	7.8	58.8	19.6	7.8	5.9		
3–6 yr	17.1	52.3	15.1	11.1	4.4		
7+ yrs	15.3	45.8	21.5	9.7	7.6		

Table 5
Correlation matrix of Online Social Networking, Mental Health and Emotional Intelligence.

	Online Social Networking	Mental Health	Emotional Intelligence
Online social Networking	1	−.133**	−.198**
Mental Health		1	−.488**
Emotional Intelligence			1

**. Correlation is significant at the 0.01 level (2-tailed).

9. Conclusion

The study found that comparatively younger children have higher practice of OSN and so having high percentages of emotional intelligence than the older ones. But in case of Mental health, relatively, older female adolescents have experienced the mental health problems. Considering the information obtained during the study, that is the sufficiently low level of emotional intelligence of adolescents, as well as the highlighted negative correlation with online social networking. As discussion conveys, the study proved that there is significant relationship between online social networking, mental health and Emotional intelligence. However this relationship have limited supporting literature due to lack of research on the subject. In order to demonstrate a more strong association between OSN and Mental health as well as emotional intelligence, additional research is needed.

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Declaration of competing interest

The authors declare that they have no conflict of interest.

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