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Original Research Article

The effect of social media use on psychological wellbeing among students in a medical school

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ABSTRACT

Background: These days, mobile technology plays a key role in influencing the impact of social media and screen time. The sheer number of hours spent on social media and how potentially harmful it is for students' psychological well-being; little research has been done on the subject. The research aims at finding out how social media use impacts the mental health of medical college students.
Methods: A cross-sectional study was conducted involving 553 students from January to June 2021 using purposive sampling. Rescue time mobile applications, SNSQ, and PWB scale were used to collect data. The average screen time was measured in minutes, and descriptive statistics were analyzed. A p=0.05 was considered statistically significant.
Results: A total of 553 medical students participated in this study. There were 547 (98.6%) students use smartphones, the average internet cost was 282.5±167.1 rupees Maximum number of study participants is fond of using WhatsApp at regular intervals in a day 3.17±SD (0.9), followed by Instagram 2.45±SD (1.2). Social media usage screen time in minutes was observed for a week and it was found that around 123 participants (22%) spent more time, i.e., >3000 minutes, which is severe according to Munnaji et al.
Conclusions: Our research showed that screen time almost always exceeded the permissible limit, but it had little effect on psychological well-being. Managing excessive screen time is important. Limiting it is ideal. Parents and students need to be educated and restricted from using screens and social media.

Keywords: Social-media, Screen time, Psychological well-being, Adolescent health, Medical students

INTRODUCTION

Social media use is intensely integrated throughout the online platform; it is amongst the most common forms of online interaction. Globally, 3.8 billion people used social media in 2020, and that number is expected to grow to nearly 4.41 billion in 2021. Smartphones and computers are used to access social media, with 85% coverage in developed nations and 45 percent in developing nations, with a wide range of 55%.[1] India is the world's second largest internet market, after China, with over 1.4 billion social media users. The number of Indians using social media will reach 400 million by 2021. It consequently increased over prior years. Additionally, males used social media at a rate of 71% versus women's 29% in India.[2] In addition, social media is on the verge of becoming ingrained in people's daily lives. Adolescents are disproportionately impacted by social media apps such as WhatsApp, Facebook, Twitter, LinkedIn, Netflix, Google, Twitter, YouTube, Reddit, Insta-gram, and Quora, among others, which are constantly diverting students' attention away from their academics. Applications of this type are now highly valued by students. Social media addiction is a growing public health concern in India, particularly among young people. The research on this subject is still in its infancy, so more research is needed. The psychological and environmental variables in college students' lives may make them especially susceptible to the effects of social media.

Increased social media screen time usage has a significant impact on psychological well-being (PWB).[3] College students' usage of social media enhanced their sense of loneliness. Previous research has shown that social media has a detrimental impact on young people's everyday life and causes a break in their psychological well-being (PWB).[4] Well-being has been characterized in terms of autonomy, the purpose of life, environmental mastery, and suffering, including anxiety and isolation, behavioral problems, impulsivity, extraversion, and social isolation.[5] Similarly, research has defined well-being as a condition characterized by poor time management, inadequate sleep, and missed meals, all of which align with other addictive behaviors.[6] Thus, addiction to social media is a growing health concern in India; students' increased use of social media declines in psychological well-being, including anxiety, depression, academic performance and difficulty sleeping, social isolation, and addictive behavior as a result of increased screen time.[7]

However, research on the psychological effects of social media screen media is scarce in certain areas of the region. As a result, this study will quantify the time spent on social media and unravel how it relates to psychological well-being. In addition to providing crucial insights to health experts such as psychiatrists and psychologists in their efforts to mitigate the negative effects of excessive media use, this study will also estimate social media usage by screen time and explore the relationship between psychological well-being and social media use.

METHODS

This study was conducted between January and June 2021 in Mysuru, Karnataka among students of the JSS medical college. The purpose of the study is to estimate social media usage based on screen time and to determine the relationship between psychological well-being and social media use. A total of 553 students between the ages of 18 and 35 were selected by a purposive sampling method from those who were present at the event and participated voluntarily by providing consent. Those who were unwilling to participate, those without a compatible device to install the app, and those undergoing treatment for psychological illnesses were excluded from the study.

Sample size

Assuming an average screen time of social media usage among 18-30 age group as 360 min with at least a standard deviation of 120 min Munnaji et al with an absolute precession of 10% and confidence interval of 95% a sample size of 553 was enrolled for the study.[9] The participants were fully informed about the purpose of the study. Assuring that maximizing the benefits and minimizing the risks and burdens to the participants, the students were assured that they have the right to accept or refuse from the study. In addition, privacy and confidentiality were maintained using proper measures. Detailed data collection only took place after receiving institutional ethics committee approval.

The data was collected under 4 sections: Socio-demographic variables, the social network usage questionnaire, and the psychological wellbeing scale.

Socio-demographics

Age, gender, study level, residential and socioeconomic status was assessed to describe the participants' characteristics and show similarities and variations among the study participants.

Screen time

The non-paid version of an Android application 'Rescue time' available on Google play store was used to measure participants' usage of social media applications on their smartphones for one week to track user devices without requiring in-app logins for other apps such as Facebook. Privacy concerns were minimal; they state: "We do not sell." [sic] on their official website (Rescuetime.com).

Social network usage

Social network usage questionnaire was used to measure the purpose of social media usage by students. Gupta and Bashir conducted confirmatory factor analysis and revealed that the 19 items of SNUQ were factored into 4 subscales (academic, socialization, entertainment, and informativeness). The internal consistency reliability was good; Cronbach's α for the total scale was 0.83 (N ¼ 420). The participants are asked to respond to SNUQ items using a 5-items Likert scale that ranges from (Never {5} to always {1}). The total score is calculated by taking the average for all participants' responses and the average scores are used to calculate subscales scores too.[10]

Psychological wellbeing

The 18-item version of the Ryff PWB scale was used. It has six dimensions of PWB as follows: (i) Autonomy, (ii) Environmental mastery, (iii) Personal growth, (iv) Positive relations, (v) Purpose in life and (vi) Self-acceptance Each subscale consists of 3 items divided between positive and negative items. On an 18-item version scale, 8 PWB items were positively worded and 10 negatively worded. Before analysis, negatively worded items were reverse-scored so that high values indicated well-being. For each item, students were asked to indicate on a 7-point scale ranging from 1 ("strongly agree") to 7 ("strongly disagree"). Cronbach's alpha coefficient for this scale which is the measure of internal consistency of scale was 0.817, indicating good internal consistency.[11]

Statistical analysis

Data was entered into MS excel followed by analysis using licensed SPSS 27. The demographic characteristics

such as age, sex, and parity, etc. were represented using the arithmetic mean, standard deviation, and percentages with bar charts and pie diagrams. The average screen time was measured in minutes, and descriptive statistics were analysed. Relation between social networking site usage (SNSQ) and psychological wellbeing (PWB) was determined by one-way ANOVA with a significance of $p<0.05$.

RESULTS

Five hundred and fifty-three medical students took part in this study. There were a majority of MBBS students 422 (76.3%), followed by MSc (15.9%), MPH (5.2%) and MD (2.5%) students. The majority of our study participants were between the ages of 24-26 years 273 (49.4%), followed by 21-23 years 207 (37.5%), 27-30 years 57 (10.3%) and 18-20 years 15(2.8%) and the mean age was 24.05±2.08 years. There were slightly more females 318 (57.5%) than males 235 (42.5%).

A majority of the study participants were members of nuclear families 514 (93%) followed by joint families 26 (4.7%) and members of three-generation families 12 (2.1%). Maximum of the study participants belonged to lower (68%) and lower middle class (17). There were 375 (68%) participants with a socio-economic level of upper (68%) followed by upper-lower 93 (17%), lower and upper-middle 6% each, and lower was 15 (3%). We found 219 (39.8%) are staying in hostel, 160 (28.9%) in paying guests, 97 (17.5%) staying with parents, and 75 (13.5%) in another residential status.

The average±SD amount per participant per month for pocket money allowance was 4575.8±3593.5 and ranged from 500 to 20000 rupees. The mean monthly internet expenses were Rupees 292.59±169.15. Most of our study participants were using smartphones 547 (98.6%) for social media usage compared to laptops 3 (1%) and others {2 (desktop, tabs)}. The 'rescue time' mobile application was used to measure social media usage screen time over a week. It was observed that 123 (22%) participants spent more than 3000 minutes on social media, and 85 (15.4%) participants had spent 2500-3000 minutes, which was more severe than the average Munnaji et al screen time (2520 min) (Figure 1).

Wats-up is most commonly used by our study participants at regular intervals in a day 3.17±SD (0.9) followed by Instagram 2.45±SD (1.2), rather than Facebook, Twitter, Telegram, Signal, and other social media apps (Table 1).

Entertainment accounted for the highest proportion of social network sites (SNS) usage purposes among study participants (60.7%), followed by academics (47.2%), socialization (39.5%), and information (38.1%) (Table 2).

The relationship between psychological well-being (PWB) and social media usage in minutes over one week was not significant. It has also been demonstrated that the specific dimensions of PWB, such as autonomy, environmental mastery, personal growth, positive relationships, purpose in life, and self-acceptance, are not associated with excessive screen time (Table 3).

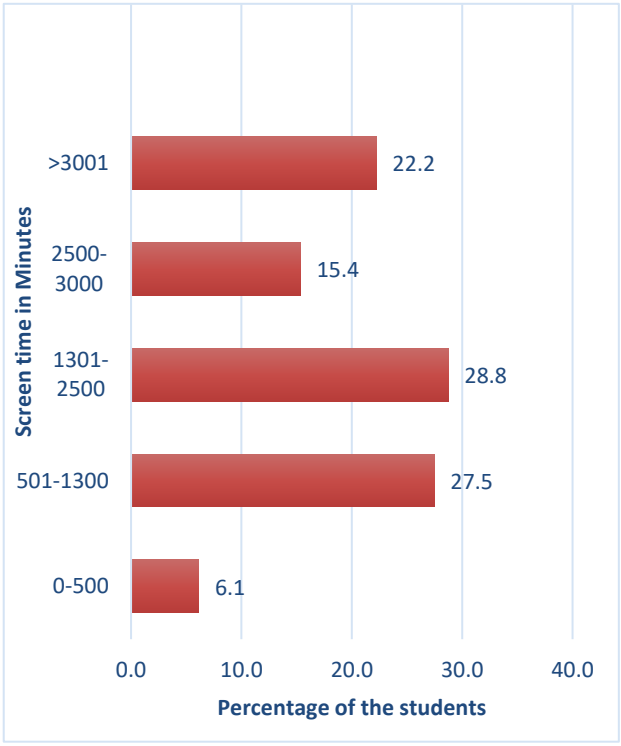

Figure 1: Screen time measured through the rescue time app used by the study participants for a week, (n=553).

Table 1: Mean and standard deviation of social media apps used by the study participants based on a five-point rating scale, (n=553).

Social media apps	Mean ± SD
Facebook	1.85±1.37
Instagram	2.45±1.29
Twitter	1.25±1.45
Wats-up	3.17±0.91
Signal	0.56±0.96
Telegram	1.19±1.28
Others	0.97±1.21

Table 2: Distribution of social network sites used by study participants, (n=553).

Purpose of use	Frequency of use		
	Most often (%)	Less often (%)	Never (%)
	Always/ often	Sometimes/ rarely	
Academic	47.2	42.3	10.5
Socialization	39.5	42.6	17.8
Entertainment	60.7	26.2	13.1
Information	38.1	48.0	13.9

Table 3: The relationship between psychological wellbeing and social media usage through one week of screen time in minutes, (n=553).

Psychological wellbeing sub-scale	One week screen time (Min) (Mean ± SD)					P value
	0-500, (normal)	501-1300, (mild)	1301-2500, (moderate)	2501-3000, (severe)	>3000, (Very severe)	
Autonomy	16.12.7	15.9±2.4	15.7±2.8	15.1±3.3	15.0±2.9	0.161
Environment mastery	14.3±2.5	12.7±2.8	12.6±2.7	12.8±3.0	12.4±3.1	0.101
Self-acceptance	15.4±2.5	15.6±2.8	15.5±2.7	15.1±2.7	15.4±3.2	0.685
Personal growth	13.1±2.6	13.6±3.1	12.9±2.9	13.4±3.3	12.9±3.2	0.223
Positive relations	12.2±2.7	12.9±3.4	12.7±3.3	13.5±3.0	13.1±3.1	0.259
Purpose of life	9.8±3.4	9.7±3.0	9.6±2.9	9.2±3.0	9.1±2.5	0.350

P<0.05 is significant.

DISCUSSION

The participants in our study were mostly 273(49.4%) from the age group of 24-26 years. In Gladius et al participants' ages ranged from 18-23 years.[4] Our study participants' mean (M) age was 24.05±2.08 years old. According Al-Dwaikat et al study, the mean age of participants was 20.8 years±2.24. Our study participants were made up of 318 females (57.5%) and 235 males (42.5%). In our study, the number of female participants was slightly higher than the number of male participants. This is similar to Al-Dwaikat's study where most participants were female (67.5%).[8]

Participants in this maximum were from upper socioeconomic classes, 375 (68%), followed by upper-lower 93 (17%), lower and upper-middle 6% each, and lower was 15(3%). Contrary to our study, the majority (51.6%) of respondents in the Pooja et al study belonged to the middle class and lower class.

A maximum number of study participants use WhatsApp frequently at regular intervals throughout the day 3.17±SD (0.9), followed by Instagram 2.45±SD (1.2) rather than Facebook, Twitter, Telegram, Signal, and other social media apps. Similarly, Masthi et al found that 27.4% of survey participants were addicted to social media, while 24.0% attended government colleges and 30.8% attended private colleges (Z=3.26, p=0.001).[3]

The 'rescue time' mobile application was used to measure social media usage screen time over a week. It was observed that 123 (22%) participants spent more than 3000 minutes on social media, and 85 (15.4%) participants had spent 2500-3000 minutes, which was more severe than the average Munnaji et al screen time (2520 min).[9] The adolescents in our study used a median screen time of one hour (IQR=0.5, 2) per day. There was an average of over two hours of screen time per day among 57 (17%) adolescents. There was an excess screen time prevalence of 17% (95% CI: 13%-21%). Screen time was significantly associated with older adolescents (p=0.006) and adolescents who lived in hostels (p<0.001). Study participants used social media most often for entertainment (60.7%), academics (47.2%), sociability (39.5%), and information (38.1%). Study results from the Manjunatha et al reported that 4% of respondents spend less than an hour on social media. Most Indian students (62.6%) use social media for at least one hour a week.[6]

The relationship between PWB and social media usage in minutes over one week was not significant. It has also been demonstrated that the specific dimensions of PWB, such as autonomy, environmental mastery, personal growth, positive relationships, purpose in life, and self-acceptance, are not associated with excessive screen time. According to a study by Prabhakararao.[12] About three-quarters (74%) claimed that it has been a negative effect, like procrastination, distraction, and poor time management, while 26% of students reported an impact of the usage on their lives.

CONCLUSION

This study provides an essential first look at the impact of screen time on students. In our research, the percentage of screen time exceeding the permissible limit was severe (22%) but it wasn't significant with psychological well-being of the participants. Social media is more commonly used for entertainment than academics. The amount of screen time they spend on social media may affect their academic performance. Therefore, encourage students to limit the amount of time they spend on social media through campaigns about the risks. Students most involved in social media spend more time on it than they do with their studies. Educate students about the dangers of excessive screen time on social media. Psychological well-being can be enhanced through online interventions. Students need to be aware of the dangers of excessive screen time and social media, and the need to limit screen time. Therefore, high screen time can be prevented.

Recommendations

Even though it is preferable to minimize screen time on social media to enhance academic performance and achieve other life goals, increased screen time on social media did not seem to lower psychological well-being in our research.

In spite of this, research showed no link between excessive screen usage and psychological well-being.

Depending on the previously known notion of increased screen time on medical students' social media use. The media and seminars can be used to educate people about the origins and consequences of internet addiction.

Students should be taught about the risks of daily screen time and social media usage, as well as the need to limit access to screens. Screen usage can be minimized.

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