

Social Networking and its Impact on Academic, Social and Family Lives of Medical Students in Karachi, Pakistan

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ABSTRACT

Objective: To assess the impact of social networking on academic, social, and family lives of medical students in Karachi, Pakistan

Methodology: A multi-center cross-sectional study was conducted in four medical colleges of Karachi, Pakistan. A questionnaire-based representative multi-stage cluster survey was conducted. A total of 728 students were inquired about the impact of social networking on their academic, family, and social lives. Based on time spent on social networking in hours per week, participants were categorized into three groups including those who spent 1-7 hours a week on SN activities, those who spent 8-14 hours per week, and 15 hours and above. Comparisons in differences among three groups on their perceptions of academic, family and social impact were statistically analyzed using the Chi-square test.

Results: The mean age of the students was 21.02 years and 78% were females. Almost all of them (94.2%) had access to Wi-Fi connectivity at home and 71.7% used SMART phone as a primary tool of connecting to Social Networking Sites. Top five sites used included Facebook (99.3%), Skype (60.3%), Whatsapp (44.4%), Viber (30.6%), and Twitter (28.6%). In comparison to those who spent 1-7 hours a week on SN activities, those who spent 8-14 hours per week and 15 hours and above were significantly less likely to have A-one or A grades in exams ($p=0.029$) and engage in physical activity or sports ($p=0.024$). Both groups were also significantly more likely to report pending assignments ($p=0.032$), decrease in concentration ($p<0.001$), sleeping late at night ($p<0.001$), and affected performance the next day ($p=0.003$).

Conclusion: The students perceived that social networking had negative impact on their education and physical activity. Awareness interventions on healthy uses of social networking sites should be designed. Medical universities should also focus on engaging students in sports activities which may help in reducing the unnecessary excessive time spent on social networking.

Key words: Social Networking, Internet Use, Medical Students, Academic, Family

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پاکستان کے شہر کراچی میں شعبہ طب سے تعلق رکھنے والے طلباء کا سماجی رابطوں کی ویب سائٹ کے استعمال سے تعلیمی، معاشرتی اور خاندانی زندگی پر اثرات کا جائزہ

مقصد: اس تحقیق کا مقصد کراچی کے شعبہ طب کے طلباء کا سماجی رابطوں کی ویب سائٹس کے استعمال سے تعلیمی، معاشرتی اور خاندانی زندگی پر اثرات کا تعین کرنا ہے

طریقہ: یہ تحقیق کراچی، پاکستان کے شہر کے چار میڈیکل کالجوں پر کی گئی۔ متعدد حصوں پر مشتمل ایک سوانامہ کی شکل میں جائزہ لیا گیا۔ جس میں مجموعی طور پر 728 طلباء سے ان کے تعلیمی، خاندانی اور ذاتی زندگی پر سوشل نیٹ ورکنگ کے اثرات کی معلومات لی گئی۔ سوشل نیٹ ورکنگ پر وقت صرف کرنے کے لحاظ سے تحقیق میں تعاون کرنے والے طلباء کو تین گروہوں میں تقسیم کیا گیا۔ جو ایک سے سات گھنٹے فی ہفتہ، آٹھ سے چودہ گھنٹے فی ہفتہ، اور پندرہ یا اس سے زیادہ گھنٹے فی ہفتہ، سوشل نیٹ ورکنگ پر صرف کرتے ہیں۔ تینوں گروہوں کے فرق کا موازنہ کرنے کے لیے شمارتیاتی طریقہ تجزیہ Chi-square کو ٹیسٹ کا استعمال کیا گیا۔

نتیجہ: تحقیق میں طلبہ کی اوسط عمریں تقریباً 21 سال تھیں۔ ان میں 70 فیصد طالبات تھیں۔ جن میں سے تقریباً سبھی کے (94.2) فیصد کے گھروں کی فائی کی سہولت موجود تھی۔ اور تقریباً 71 فیصد کے پاس ان کا اسمارٹ فون،

سوشل نیٹ ورکنگ کی سائٹ تک رسائی کا بنیادی ذریعہ تھا۔ سب سے زیادہ استعمال کی جانے والی پانچ سائٹس میں فیس بک، (99.3) فیصد، اسکا پ (60.3) فیصد، واٹس ایپ (44.4) فیصد، واہبر (30.6) فیصد اور ٹویٹر (28.6) فیصد استعمال کیا جاتا ہے۔ موازنہ نے ثابت کیا کہ وہ طلباء جو ایک سے سات گھنٹے فی ہفتہ سوشل نیٹ ورکنگ پر گزارتے ہیں ان کے مقابلے میں ایک سے چودہ اور پندرہ سے زائد گھنٹے فی ہفتہ سوشل نیٹ ورکنگ پر

صرف کرنے والے طلباء A اور A1 گریڈ لینے میں واضح طور پر پیچھے رہے۔ جبکہ جسمانی اور کھیل کود کی سرگرمیوں میں بھی یہ طلبہ کم مشغول پائے گئے۔ اور اپنے گذشتہ سائنس نمائش جمع کرانے کا رجحان بھی ان دو گروہوں میں کم پایا گیا جبکہ توجہ کی کمی، رات کو دیر سے سونا اور اگلے دن کی کارکردگی پر برا اثر بھی ان دو گروہوں میں ہی پایا گیا

حاصل مطالعہ: طلباء اس بات سے متفق ہوئے کہ سوشل نیٹ ورکنگ ان کی تعلیمی اور جسمانی سرگرمیوں پر منفی اثرات مرتب کرتی ہے۔ سوشل نیٹ ورکنگ کے صحتمندانہ استعمال کے لیے آگاہی ضروری ہے اور طبی جامعات کو یہ بھی چاہیے کہ طلباء کو کھیل کود کی سرگرمیاں میں مصروف رکھیں تاکہ وہ اپنے وقت کو غیر ضروری طور پر سوشل نیٹ ورکنگ کے استعمال میں ضائع نہ کریں۔

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INTRODUCTION

Social networking has expanded immeasurably, wrapping itself around every head that wants to stay connected in the modern era. More than 1 billion people use social media or social networking sites worldwide today¹. As of September 2014, 71% of online adults used Facebook; 23% used Twitter; 28% used Pinterest; 26% used Instagram, and 28% used LinkedIn². Use of these sites has gradually spread all over the world with increasing trends also observed in developing countries³. Pakistan has over nine million users ranked at 27th among countries that use Facebook⁴. Highest number of users lies in the age group of 18–24 (the economically productive ages). With all these facts in mind, it is important to study the impact that this new found form of communication has on the daily lives of people. Previous studies suggest that excessive involvement in social networking leads to poor academic performances of students and their satisfaction with life significantly declines due to cognitive immersion into social media^{5,6}. This digital technology has also been associated with self-absorption, narcissism, and isolation⁷. On the contrary, some studies have found Social Networking Sites valuable in strengthening interpersonal relationships and building learning communities⁸.

With the ever growing use of Social Networking Sites, their impact on daily life needs to be studied in understanding the positive and negative influences of this modern communication on the students. Only one study has previously explored the effects of Facebook on medical students¹⁰ and local literature regarding academic, social, and family life is scarce. The objective of this study was to assess the impact of social networks on a Pakistani medical student's academic, social, and family life.

METHODOLOGY

A cross-sectional survey was conducted among medical students of four medical colleges of Karachi in the province of Sindh, Pakistan between October 2014 and March 2015.

Sample size was calculated using the software "Open Epi software for epidemiologic statistics". Using the expected frequencies of 61% for adverse effect on studies and 37% for adverse effect on social and family lives from previous studies^{9,10}, the highest sample size i.e. 359 came at expected frequency of 61% at confidence level of 95% and bound on the error of 5% which after adjusting for design effect of 2 was 718. Multi-stage cluster sampling technique was used to select medical students using social networks. Four medical colleges (two public and two private) were taken as clusters and the number of students from each

college were obtained. Sample size of 718 was proportionately distributed into four colleges based on size (number of students) in each college. Within colleges, the units of clusters (i.e. students) were stratified into five batches to capture the junior as well as senior medical students. Equal number of medical students was randomly selected from each batch. All medical students using any social networking site in the selected medical colleges were invited to participate in the study.

Questionnaire was self-designed and compared with variables of other similar studies. Section 1 obtained information about socio-demographic characteristics including age, gender, household monthly income, college, and year in which the student was studying. Section 2 inquired about predominant Social Networking Sites (SNS's) used, average hours spent on social networking, main reasons for using Social Networking Sites and primary tool of connection and availability of Wi-Fi. Section 3 comprised 10 items related to impact of Social Networking Sites on academic life which included grade obtained in the last semester, average hours spent on studies, perception on nature of impact of SNS's on studies, whether grades have declined after involvement in SNS's, whether assignments stay pending due to SNS's, impact on concentration, need for deactivating accounts during exams, habit of sleeping late at night due to using SNS's, thinking about comments given while social networking and nature of effect on next day's performance. Section 4 inquired about impact on family and social lives using 12 questions including enjoying the company of family, speaking less at home, getting irritated when any family member sits around during social networking, taking meals with family, skipping meals due to social networking, whether parents complain of excessive use of SNS's, feeling lonely, involvement in sports or physical exercise, participation in social gatherings, getting depressed if internet is not working, and finding it easier to express feelings using SNS's.

Data collection process was supervised by the Principal Investigator. Data was collected by the medical students. Field testing of the final questionnaire was done. Forms were checked for completeness daily. Data was entered twice and then cleaned for any missing variables.

Statistical Analysis: Data was analyzed using SPSS version 16. The results were presented in percentages for categorical variables while mean and standard deviation were computed for discrete or continuous variables. Based on time spent on social networking in hours per week, participants were categorized into three groups including those who spent 1–7 hours per week, 8–14 hours per week and 15 hours and above.

Comparisons in differences among three groups on their perceptions of academic, family, and social impact were statistically analyzed using the Chi-square test for categorical variables and ANOVA for discrete or continuous variables. P-value of <0.05 was considered significant.

Ethical Considerations: Permission from administration of all the medical colleges was taken. The names of the institutions have been kept confidential in the final analysis. Informed Consent was obtained from all the participating students. Ethical approval of the research was obtained from the Institutional Review Board of Jinnah Sind Medical University.

RESULTS

A total of 728 medical students were interviewed. Table 1 shows the descriptive characteristics of the study participants. The mean age of the participants was 21.02 years. More than three-fourths of the participants (78%) were females. 70.1% of medical students were from public sector medical colleges. Almost all of them (94.2%) had access to Wi-Fi connectivity at home. Almost three fourths (71.7%) among the students used SMART phone as a primary tool of connecting to

Table 1: Descriptive characteristics of research participants in four medical colleges of Karachi (n=728)

Age	Mean= 21.02 SD= 1.73
Gender	
Male	22% (160)
Female	78% (568)
College	
Public	70.1% (510)
Private	29.9% (218)
Graduation Year	
First year	20.6% (150)
Second Year	18.8% (137)
Third Year	20.9% (152)
Fourth Year	19.8% (144)
Final Year	19.9% (145)
Monthly Income	
<1 Lac	49.2% (358)
1 Lac and above	50.8% (370)
Family Size	Mean= 5.42 SD= 1.54
2-4	65.7% (478)
5 and above	34.3% (250)
Availability of Wifi at home	94.2% (686)
Primary tool of connecting to Social Networking Sites	
Smart Phone	71.7% (522)
Laptop or Tablet	18.3% (133)
Personal Computer	10% (73)
Average time spent on Social Networking (hours per week)	Mean 11.59 SD 6.92
1-7 hours per week	34.9% (254)
8-14 hours per week	43% (313)
15 hours and above	22.1% (161)

Social Networking Sites. On an average, students spent 11.59 hours (SD=6.92) per week on using Social Networking Sites.

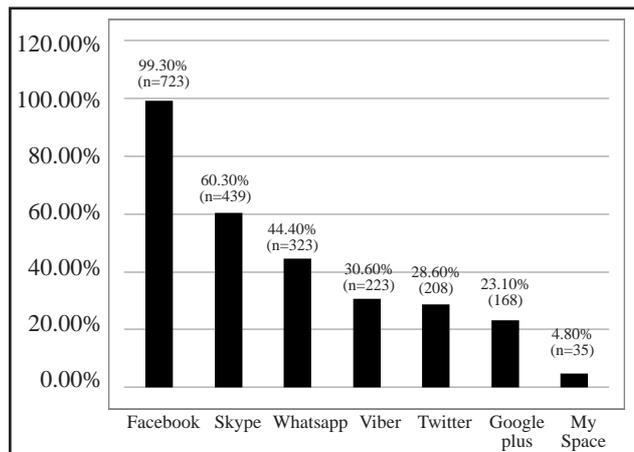


Fig. 1: Predominant Social Networking Sites used by the students of four medical colleges of Karachi (n=728)

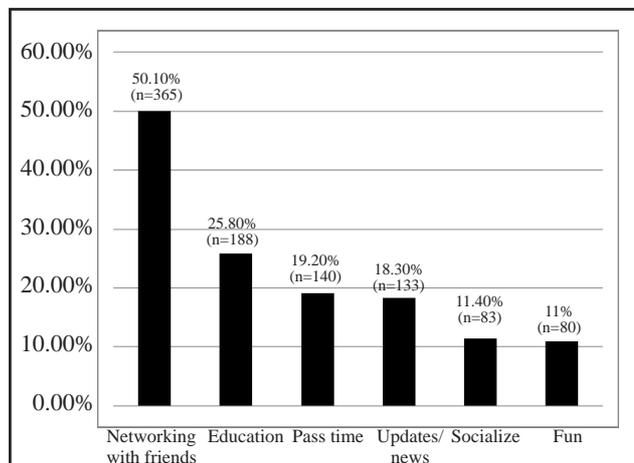


Fig. 2: Main reasons for using Social Networking Sites among students in four medical colleges of Karachi (n=728)

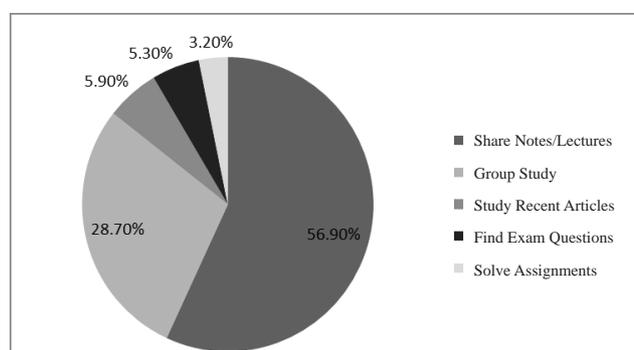


Fig. 3: Predominant academic purpose for using Social Networking Sites among students in four medical colleges of Karachi (n=188)

Fig. 1 shows the predominant Social Networking Sites used by the students. Top five sites included Facebook (99.3%), Skype (60.3%), Whatsapp (44.4%), Viber (30.6%) and Twitter (28.6%). Among the main reasons (Fig. 2), half of the students (50.1%) used these sites for networking with friends and family. Only about one fourth (25.8%) used them for academic purpose. Other reasons mentioned included Passing Time (19.2%), News Updates (18.3%), to Socialize (11.4%) and Just for Fun (11%). Among those who used these sites for academic purposes (Fig. 3), more than half shared notes or lectures (56.9%) and about one fourth (28.7%) did group study. Less common academic activities included studying recent articles (5.9%), finding exam questions (5.3%) and solving assignments (3.2%).

Less than one fifth of students (18.1%) thought that it had a positive impact on their education. Another one fifth (20.3%) reported decline in grades due to its increasing use. Assignment of more than half of the students (58.1) stayed pending because they spent time on social networking. Almost two thirds (65.1%) reported decreased concentration during studies due to social networking. More than half (54.8%) also slept late at night because of it while 41.1 % thought that its use affected their next day performance. In comparison to those who spent 1-7 hours a week on SN activities, those who spent 8-14 hours per week and 15 hours and above were significantly less likely to have A-one or A grade in exams ($p=0.029$) and report positive impact on education ($p=0.005$). Both groups were also significantly more likely to report pending assignment ($p=0.032$), decrease in concentration ($p<0.001$), sleeping late at night ($p<0.001$) and affected performance next day ($p=0.003$).

Table 2: Perceptions of students about impact of Social Networking sites on academic in four medical colleges of Karachi (n=728)

	Overall	Spend 1-7 hours/ week n=254	Spend 8-14 hours/ week n=313	Spend 15 Hours and above n=161	p-value
Grades A-one and A	40.1%(292)	45.7%(116)	34.8%(109)	41.6%(67)	0.029
Average hours/day on Studies	2.19+-1.19	2.30+-1.24	2.06+-1.12	2.25+-1.12	0.045
Positive Impact on education	18.1%(132)	23.6%(60)	17.3%(54)	11.2% (18)	0.005
Grade declined in last one year	20.3%(148)	16.5%(42)	20.8%(65)	25.5%(41)	0.086
Assignments stay pending	58.1%(423)	52.4%(133)	59.1%(185)	65.2%(105)	0.032
Decreased concentration	65.1%(474)	55.1%(140)	68.4%(214)	74.5%(120)	<0.001
Account deactivated during Exams	47%(342)	43.3%(110)	48.2%(151)	50.3%(81)	0.318
Think of Comments during Study	59.6%(434)	54.7%(139)	61.3(192)	64%(103)	0.124
Sleep late at night	54.8%(399)	45.7%(116)	56.5%(177)	65.8%(106)	<0.001
Affects Next Day Performance	41.1%(299)	32.7%(83)	44.7%(140)	47.2%(76)	0.003

Table 3: Perceptions of students about impact of Social Networking Sites on family and social lives in four medical colleges of Karachi (n=728)

	Overall	Spend 1-7 hours/ week N=254	Spend 8-14 hours/ week N=313	Spend 15 Hours & above N=161	p-value
Enjoy family company	95.6%(696)	95.3%(242)	96.8%(303)	93.8%(151)	0.301
Speak less at home	39%(284)	37%(94)	37.7%(118)	44.7%(72)	0.239
Get irritated when parent sits Besides while networking	43%(313)	39.8%(101)	41.9%(131)	50.3%(81)	0.092
take meals with family	91.6%(667)	93.3%(237)	91.4%(286)	89.4%(144)	0.375
Help family in household chores	81.7%(595)	82.3%(209)	80.2%(251)	83.9%(135)	0.597
Skip meals	14.3%(104)	13%(33)	13.4%(42)	18%(29)	0.306
Parents complain of excessive use	34.3%(250)	23.6%(60)	38%(119)	44.1%(71)	<0.001
Feel alone	29.9%(218)	24.4%(62)	34.8%(109)	29.2% (47)	0.026
Time spent playing sports	17.9%(130)	21.7%(55)	13.4%(42)	20.5% (33)	0.024
Participate in social gatherings	73.6%(536)	72.8%(185)	72.2%(226)	77.6%(125)	0.418
Depressed when internet does not work	39.6%	38.6%(98)	36.7%(115)	46.6%(75)	0.107
Easier to share and express feelings	75.5%(550)	71.7%(182)	78%(244)	77%(124)	0.196

Table 3 shows the perceptions of students about impact of social networking on their family and social lives. Majority reported enjoying time with family (95.6%), taking meals with family (91.6%), and helping family in household chores (81.7%). 43% of students did not want their parents to sit beside them while they were networking, 39% thought they spoke less at home, and 39.6% felt depressed when internet did not work. Parents of one third students (34.3%) complained to them about excessive use of SNS's. Only 17.9% spent any time playing sports. Almost three fourths (73.6%) participated actively in social gatherings. 75.5% also thought that they found it easier to express and share their feelings on internet. In comparison to those who spent 1–7 hours a week on SN activities, those who spent 8–14 hours per week and 15 hours and above were significantly less likely to participate in sports ($p=0.024$). Both groups were also significantly more likely to feel lonely ($p=0.026$).

DISCUSSION

The access to internet and social networking sites has increased remarkably as reflected by very high percentage of students having access to Wi-Fi connectivity and SMART phones. This finding is contrary to a previous study done in Saudi Arabia where primary tool of connectivity was personal laptop¹¹. Average time spent on social networking ranged from 1–2 hours per day and the main reason of simply to keep in touch with friends and relatives is consistent with findings of previous studies^{12,13}. Therefore, it is not surprising to see that only one fourth of the students used these sites for any academic purposes like sharing notes and lectures, group studies, reading articles, and solving assignments. A similar study done two years ago in a medical university in Pakistan showed that 18.9% students used Facebook for educational purpose¹⁰. This shows that utility of Social Networking Sites for educational purpose among medical students has remained stagnant.

The findings show a clear negative impact on academic life with high percentage of students reporting pending assignments, decreased concentration on studies and sleeping late at night due to social networking activities. Also these effects showed progressive increase as the more time was spent on these activities. Those who spent less time on social networking also showed more probability of giving more time to their studies and acquiring Grade A or A-one. This finding is consistent with previous studies done on the effects of using Facebook on academic grades^{15,14}.

Family and social lives of the medical students remained less affected with high percentage of students enjoying

time with family, taking meals with family, helping family in household chores, and participating actively in social gatherings. Previous findings on effects of social networking on family and social lives are contradictory. A study from Ireland reports that media technologies within the home are leading to increased social isolation and a privatization of people's lives within the household¹⁵. On the contrary, a study from Australia found majority of respondents did not feel that social networking reduced the amount of time spent speaking to friends and family¹⁶. This is also consistent with previous study done in Pakistan¹⁰. In addition, another study also indicates increased social trust and civic engagement as a result of using social networking sites¹⁷. In the context of Pakistan, minimum impact on family and social life could be explained by the fact that family units are still closely knit in Pakistan. Moreover, almost four fifths of participants were girls who tend to be more involved in family activities as compared to boys.

However, area of great concern was overall low levels of student's participation in sports or other physical activities and its progressive decrease with increasing time spent on social networking activities. This finding is consistent with the finding of two such studies on medical students in Delhi and Karachi which have reported physical activity levels of 30.1% and 18% respectively^{18,19}. Moreover, excessive use of social networking sites was also associated with feelings of loneliness. A high percentage of students also found it easier to express and share their feeling on internet. A similar study has also reported that social networking sites give shy people a way to socialize¹⁰. Another study also suggests that students with higher levels of internet addiction are more likely to be low in psychological well-being²⁰.

Strengths and Limitations: The strength of our study lies in it being multi-center involving medical students from four medical colleges and adequate sample size. While other studies have attempted to study the effects of Facebook only, this study has attempted to understand the effects of social networking as a whole. One major limitation of our study is that we developed the questionnaire adapting it from previous studies. However, reliability analysis shows cronbach alpha of <0.3 among items chosen for impact on academic, family, and social life.

CONCLUSION

The study concludes that the responding students belonging to four medical colleges in Karachi were largely aware of the impact of the use of SNS on their

family and academic lives. Negative impact on academic performance is directly related to the number of hours spent on using SNS. However, physical activities of young people have been the most negatively impacted because of the time taken up by social networking activities. Students perceive any adverse effect on family life as minimal.

Future researches should focus on attempting more reliable tools to assess impact of social networking on these aspects as well as other aspects like health. Awareness interventions on healthy uses of social networking sites should be designed and their impact studied in future. Medical Universities should also focus on engaging students in sports activities which may help in reducing the unnecessary excessive time spent on social networking.

Competing Interest: The authors declare no competing interest

Author Contributions: SS, FA and SRZ conceptualized, developed the proposal, and wrote the discussion of the paper. MO, ZR and SA did data collection, entry, analysis, and contributed to literature search for background and discussion. All the authors read and approved the final manuscript.

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