# Social Media Usage and Mental Health: A Cross-Sectional Study in Pakistan

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## Headings

**Abstract:** *Excessive social media usage can be harmful to the mental health of individuals. The core objective of the study was to inspect the effects of social media usage on mental health. Secondly, to find out the mean differences of gender, social media and mental health. A cross-sectional research design was utilized to fulfil the study objectives. n=1067 students from six different universities in Punjab, Pakistan, were selected through a multi-stage sampling technique. Data was collected through an adapted questionnaire comprised of three distinct parts, i.e. socio-demographic profile, social media integration scale by Maree (2017) and Goldberg depression scale (1993), to check the social media effects on mental health among youth. Attained replies were analyzed by using SPSS analysis software version 21. Furthermore, to check the direction and consistency of the relationship among these variables, Pearson correlation was applied, which demonstrated a negative relationship between social media usage and mental health problems at p<.000. This study concluded a negative influence of excessive social media usage on mental health among youth in public universities of Punjab, Pakistan.*

**Key Words:** Social Media, Youth, Mental Health, Pakistan, Gender

## Introduction

For decades, social media has been understood as a producer of imbalance for scholars, parents and society in terms of the mental health of human beings around the globe. Excessive

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usage of social media is now the most conjoint activity among the youth of the present time. All the application software's allow interaction through 2.0 and 3.0 websites. These software applications are most probably Facebook, Twitter, Online gaming, YouTube, and WhatsApp (Bashir & Bhat, 2017). These social media applications allow individuals to communicate with their close ones anytime and anywhere all over the world with a signal click. Among the aforementioned social media applications, only Facebook report about 1 billion active users during the year 2015, which means that 1/7 people on earth use Facebook every day to get connected with friends and family. Apart from digital communications, social media has a significant influence on the other aspects of people, especially youth. Poor understanding is mainly a grave concern in the younger population. It is because when teenagers and youngsters spend their good amount of time on social media, they are at higher risk of negative influences (The Hearty soul, 2016).

According to a recent cohort study of Kelly et al. (2018), regardless of the valuable usage of social media for communications and other purposes, it is highly associated with anxiety, stress, depression and poor mental health problems among youth. Moreover, it has been proven that females are more vulnerable to face mental health problems than males due to social media. A growing body of literature, Fahy et al. (2016) directed in the intervening pathways related to youngsters mental health with respect to the time they spend on using social media and the way they enrol themselves with others. Widely concerned are the domains where premature people face online harassment as a victim/offender, which could

have the potential to influence their mental health due to easy accessibility of sharing materials which can damage their reputation and companionships (Tokunaga, 2010). By following the assumptions of the Co-construction theory, it has been postulated that social media allows people to construct their own reality, post, like and dislike whatever they like to do. Theoretically, young people who perceive less encouragement and experience difficulties in seeking attention might suffer from a sense of loneliness, hopelessness, panic, or anxiety and might prefer associations with others via unforeseen setups (Barry et al., 2017).

Several studies demonstrate the relationship between increased online time spent on social media and grown-up youths mental disturbance and stress. For example, Woods & Scott (2016), Viner et al. (2019). Significant relations were found between social media usage and people mental health in a good number of research papers with the limelight, i.e. "Have smartphones destroyed a generation?" And furthermore, "social media connected to increased mental health problems" (Coyne et al.2020). In Pakistan, a study conducted by Zaheer (2018) found that both traditional and social media are considered and criticized for developing irresponsible and unethical behavior among users. It has been perceived that social media is developing a sense of alienation among youth from national, cultural and Islamic values, which later badly affect the overall well-being of youth. Furthermore, in the study of Saleem et al. (2016), the relation of a Facebook addiction and loneliness was negative, low self-confidence, narcissism, depression, and underprivileged social life among students

(Malik & Khan, 2015; Mehmood, Jafree & Sohail, 2020). Similarly, according to the world disease ranking, mental health is the predictor of five in ten diseases in Pakistan, and there is an alarming need to address this issue to avoid serious outcomes. Little empirical studies have been taken place to investigate the relationship between social media usage and the mental health of youth in a highly populated province of Pakistan, i.e. Punjab. Henceforth, the present study fulfils the study gap regarding the relationship between social media usage and the mental health of young in Punjab. Furthermore, it gives drawbacks regarding the role of gender and other associated factors with the mental health of youth in public universities of Punjab, Pakistan. Below are the objectives of the current study:

## Objectives

1. To investigate the socio-demographic characteristics and social media usage of youth.
2. To find out the mean differences regarding social media and mental health with respect to the gender of the subjects.
3. To analyze the relationship among socio-demographic profile, social media and mental health of youth.

## Literature Review and Construction of Hypothetical Model

Pakistan is the 6th most populous country in the world, with 170 million citizens. Social media is a speedily flattering part of human lives in Pakistan, and especially the availability of internet revolution in cellular diligence affects lives to a very greater extent. In the past few years, and unparalleled rise have been observed in Pakistan regarding usage of the internet and particularly social media websites. It has become popular among people of all ages, and people use it through mobile phones, Ipads and laptops frequently. Overwhelmingly, people use social media sites for communication and connectivity. Qadeer (2016) affirmed about 10 core users of mobile and approximately 2.9 core consumers of the internet, and out of these figures, nearly 1.4 core Pakistani use the internet via a different mode of mobile as Pakistan is a patriarchal society, so males statistics of social media usage are found higher than females. It is worthy to note that Pakistan is one of those countries that have higher statistics of 62% youth aged 18-24 year (Zaheer, 2018). Social media has both positive and negative effects on the well-being of youth, especially students, during their university tenure as it enhances the mechanism of social capital and support. Furthermore, it can also guide students regarding academic content and provide a platform to establish social relations. Conversely, excessive usage of social media can direct social media addiction which later leads to mental health problems (Mahmood, Jafree & Sohail, 2020). Another leading negative consequence lies in the foundations of the Social comparison theory of Leon Festinger (1954). The main component and argument of the theory are that folks have the instincts of comparing their lives with the lives of others. These foundations are indicating one's judgement regarding one's self, thus leading to negative outcomes such as mental health problems. The users of social media websites, especially youngsters, are fond of presenting the best version of themselves.

Consequently, browsing on others' posts leads the watching to perceive the lives of other people better than them. It further leads them to establish a negative image regarding themselves and increase mood swings. A growing body of preceding literature directed that comparison of self with the others is linked with spending more time on social media and mental health problems among youth (Holland & Tiggemann, 2016). A Croatian study found that excessive usage of social media was parallel with depression. Findings affirmed that the more the student uses time in online space while online activities, the more will they be depressed hence causes mental issues.

## Hypothetical Model of the Study

**H1:** There is a significant influence of gender on social media usage and mental health among the youth of public universities in Punjab, Pakistan.

**H2:** Level of education and place of residence are significantly associated with social media usage and the mental health of youth.

**H3:** There is a negative correlation between social media and mental health among the youth of public universities in Punjab, Pakistan.

## Material and Methods

University structural pathology of higher education commission of Pakistan (2014) directed 26 public universities in thirty-six districts of Punjab, Pakistan**.** By focusing on these conditions, the authors designed the current study.

## Participants and Procedure

A total number of n= 1067 participated in the present study from n=6 public universities of study location, i.e. the University of Gujrat, University of Agriculture, Bahauddin Zakariya University, Multan, Islamia University, Bahawalpur, the University of Sargodha and University of Punjab, Lahore. Students of both natural and social sciences were eligible for the study, but these were only those subjects who at least have passed one semester of BS or masters and currently registered for one month in their respective program. At first, the researcher dispatched a consent letter in the classrooms of the targeted populous for receiving their willingness to participate in the study. The researcher selected the targeted population through a multi-stage sampling technique in command to approve panorama, generalizability and accurateness of the answers. Firstly, the authors randomly selected n=6 renowned districts among 36 districts of Punjab. Secondly, the researcher selected one public university among all the selected districts and approached the study subjects through a simple random sampling technique. The total population of masters and BS students of these universities was 108699, and the sample size was determined by using Cochran's formula (1963) for sample size determination. Henceforth, the sample size for the current study was n=1067.

$$\frac{z_{\alpha/2}^2\, \sigma^2}{d^2}$$
$$n = \frac{(1.96)^2(0.5)^2}{(0.03)^2}$$
$$n = \frac{(3.8416)(0.25)}{0.0009}$$
$$n = \frac{0.9604}{0.0009} = 1067.11\ or\ 1067$$

## Measurements

Students reported mental health through social media usage. For this purpose, researchers segregated the questionnaire into three distinct parts, i.e. 1) Socio-demographic profile, 2) Independent construct (Social media usage), and 3) Dependent construct (Mental health). For measuring socio-demographic profile, the researcher used questions regarding age, gender, level of education, parental education, parental work sector, place of residence, family type, preferred social media websites, number of friends on social networking sites, the average period spent on social media. These constructs were retrieved from Pakistan social and living standard measurement (2013-14). Consequently, Social media usage was used as an independent construct. For measuring social media usage among the subjects, the researcher adopted the social media use integration scale (Maree, 2017) prior used by Berryman, Ferguson and Negy (2018), comprised of ten questions measuring the emotional value of social media on the lives of subjects. Responses were recorded through 5 points Likert scale 1=strongly disagree, 2=Disagree, 3= Neutral, 4= Agree and 5= strongly agree. Similarly, mental health was measured through Goldberg depression scale (1993), comprised of nine items measuring mood and feelings globally used for measuring mental health of the subjects regarding their behavior in the past week. Each item in the scale was linked with the next item. These items were recorded through a 5-point Likert scale ranging from 1=, not at all, 2= not really, 3= undecided, 4= somewhat, and 5= very much.

## Statistical Analysis

Data managing and analysis software SPSS version 21 was utilized for coding, transforming and recording the study constructs. Firstly, assessment of the subject's socio-demographic profile was determined through frequency and percentage. Later, the association between independent constructs and the dependent construct was assessed by using an independent sample t-test to check either the mean differences exist among understudied independent gender and place of residence of the youth and dependent variable social media usage and mental health problems. Furthermore, the relationship between social media usage, mental health, and gender, level of education and place of residence was analyzed through the Pearson correlation coefficient.

## Data Analysis

### Descriptive Statistics

This section is comprised of frequency (f) and percentage (%) of items that were asked to determine socio-economic status, demographic characteristics and preferred social media sites along with time spent on social media of targeted subjects.

**Table 1.** Distribution of the Study Subjects with Respect to Socio-Demographic Profile and Social Media Usage

| Items | Categories | f(%) |
|-------|-----------|------|
| Age | 18-20 | 85(8) |

| Items | Categories | f(%) |
|---|---|---|
| | 21-23 | 498(47.7) |
| | 24-26 | 342(32.1) |
| | 27 and above | 142(13.3) |
| Gender | Male | 417(39) |
| | Female | 651(61) |
| Level of education | BS | 470(44) |
| | Masters | 597(55.9) |
| Father's Qualification | Illiterate-Primary | 190(17.8) |
| | Middle-Matriculation | 153(14.3) |
| | Intermedia-Bachelors | 519(48.6) |
| | Masters | 149(14) |
| | Above | 56(5.2) |
| Father's work sector | Government | 240(22.5) |
| | Semi-government | 191(17.9) |
| | Private | 122(11.4) |
| | Unemployed | 50(4.7) |
| | Other | 464(43.5) |
| Mother's Qualification | Illiterate-Primary | 371(34.7) |
| | Middle-Matriculation | 288(26.9) |
| | Intermedia-Bachelors | 303(28.3) |
| | Masters | 63(5.9) |
| | Above | 42(3.9) |
| Mother's work sector | Government | 56(5.2) |
| | Semi-government | 112(10.5) |
| | Private | 71(6.7) |
| | Unemployed | 206(19.3) |
| | Housewife | 622(58.3) |
| Place of residence | Rural | 435(40.8) |
| | Urban | 632(59.2) |
| Family type | Extended | 155(14.5) |
| | Joint | 440(41.2) |
| | Nuclear | 472(44.2) |
| Monthly family income | Below 20000PKR | 176(16.5) |
| | 20000PKR-40000PKR | 183(17.2) |
| | 41000PKR-60000PKR | 373(35) |
| | 61000PKR and above | 335(31.4) |
| Overwhelming used website | Facebook | 108(10.1) |

| Items | Categories | f(%) |
|---|---|---|
| | Snap Chat | 107(10) |
| | Instagram | 142(13.3) |
| | WhatsApp | 345(32.3) |
| | YouTube | 162(15.2) |
| | TikTok | 56(5.2) |
| | Twitter | 98(9.2) |
| No. of friends on social media | 100-200 | 286(26.8) |
| | 210-300 | 248(23.2) |
| | 301-400 | 176(16.5) |
| | 401-500 | 183(17.2) |
| | 500 and above | 174(16.3) |
| Time spent on social media | 1-2 hour | 134(12.6) |
| | 2-3 hour | 262(24.6) |
| | 3-4 hour | 180(16.9) |
| | 4-5 hour | 142(13.3) |
| | 5-6 hour | 176(16.5) |
| | 7 and above | 173(16.2) |

*n=1067, f=frequency, %=percentage*

The above-mentioned table no. 4.1. shows the socio-demographic profile of the study subjects. The majority of the respondents (498; 47.7%) were in the age group of 21-23 year, (651; 61%) were females, (597; 55.9%) were the students of Masters, (519;48.6%) reported that their father had done intermediate to Bachelors, (464;43.5%) mentioned that their father was working in other work sectors except for government, semi-government, private sectors, (371;34.7%) reported their mother's qualification from illiterate to primary, (622;58.3%) reported their mother as housewives, (632; 59.2%) were from an urban area, (472; 44.2%) were from the nuclear family system, (373; 35%) were reported their family income 41000PKR-60000PKR, (345; 32.3%) reported that they mostly use WhatsApp, (286;26.8%) reported 100-200 friends on social media, (262;24.6%) reported 2-3 hour usage of social media on a daily basis.

### Inferential Statistics

This section is comprised of an inferential test applied on acquired responses to test the hypothetical statements of the study.

**H1:** There is a significant influence of gender on social media usage and mental health among the youth of public universities in Punjab, Pakistan.

**H2:** Level of education and place of residence are significantly associated with social media usage and the mental health of youth.

**Table 2.** Independent Sample T-Test for Social Media usage, Mental Health with Respect to Gender and Place of residence of the Study Subjects

| Variables | Categories | M | SD | Df | Sig(2-tailed) | 95% confidence interval of the difference | |
|---|---|---|---|---|---|---|---|
| | | | | | | Lower | Upper |
| SM | Male | 43.9 | 4.04 | 1062 | .055 | -.405 | .753 |
| | Female | 43.77 | 5.05 | 872.4 | .053 | -.377 | .725 |
| MH | Male | 28.9 | 2.41 | 1062 | .047 | -.876 | -.005 |
| | Female | 29.4 | 4.07 | 1045.5 | .027 | -.831 | -.050 |
| SM | Rural | 44.4 | 4.89 | 1065 | .001 | .368 | 1.50 |
| | Urban | 43.4 | 4.49 | 879.4 | .002 | .359 | 1.51 |
| MH | Rural | 29.7 | 3.07 | 1065 | .000 | .373 | 1.23 |
| | Urban | 29.8 | 3.77 | 1034.2 | .000 | .388 | 1.21 |

*n=1067, M= Mean, SD= standard deviation, p<.05, MH= mental health, SM=social media*

The above-mentioned table no.4.2 shows the results of social media and mental health with respect to gender and place of residence of the subjects. Findings showed females were more influenced by social media while mental health problems were also significant among females. Likewise, social media is highly influenced by the place of residence of the respondents as social media is highly significant on a rural and urban population; similar to the above mental health problems are also equal and significant among the populous of both areas.

### Correlation Coefficient

**H3:** There is a negative correlation between social media and mental health among the youth of public universities in Punjab, Pakistan.

**Table 3.** Relationship between Social Media Usage, Mental Health, Gender of the Respondents, Level of Education and Place of Residence

| Variable | M | SD | | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|
| SM | 43.84 | 4.68 | R | 1 | | -.208** | -.008 | -.079** | .-98** |
| | | | P | | | .000 | .782 | .010 | .001 |
| MH | 29.26 | 3.52 | R | | 1 | | .054 | -.091** | -.112** |
| | | | P | | | | .077 | .003 | .000 |
| Gender | 1-62 | .503 | R | | | | 1 | .215** | .205** |
| | | | P | | | | | .000 | .000 |
| LoE | 2.18 | .919 | R | | | | | 1 | .181** |
| | | | P | | | | | | .000 |
| PoR | 1.59 | .492 | R | | | | | | 1 |
| | | | P | | | | | | |

*n=1067, M= Mean, SD=Standard deviation, SM= social media, MH= Mental health, LoE= level of education, PoR= Place of residence, p<.000\*\**

The above-mentioned table no.4.3 shows Pearson correlation among social media, mental health, gender, and place of residence and level of education of the subjects. Findings indicated a negative relationship of social media with mental health, gender, level of education and place of residence, while mental health was associated with gender, negatively correlated with the place of residence and level of education.

## Discussion and Conclusion

World health organization has defined mental health as individual well-being in which he/she understand himself/herself capabilities, able to cope with stressful events of life, in addition, it can perform efficiently and beneficially and capacity to mark significant impact in the society. The findings of this novel research should be considered in directions of certain limitation as the core reason of the study was to know the relationship between social media and mental health problems among the youth of Punjab, Pakistan. Furthermore, the second objective of the study was to find out mean differences in social media usage, mental health in terms of gender and place of residence. Additionally, this study aimed to investigate the gender differences, level of education and place of residence in terms of social media usage and mental health problems. Findings of the present study indicated significant gender differences in terms of social media usage and mental health problems. In this way, this study discovered that females were more influenced by social media usage and mental health problems. Similarly, social media usage is equally influenced by place of residence as the populous of both rural and urban areas have similar problems. These results are similar to a prior study by Kelly et al. (2018), which discovered that depression and mental health problems are common among girls than boys because they can face online harassment they feel hard to share the same with others given their social reputation. But findings of a critical review and synthesis research of Tokunaga (2010) suggested that mental health problems are not dependent upon gender. Both girls and boys are at equal risk of being the victim of mental health problems while using social media. Consequently, findings from Pearson correlation found the negative relationship of social media with mental health, gender, level of education and place of residence, while mental health was associated with gender, negatively correlated with the level of education and place of residence. These are consistent with the findings of Hearty (2016), who demonstrated a linear relationship between social media usage and mental health problems among youngsters and teenagers. Moreover, Viner et al. (2019) and Saleem et al. (2016) found a negative relationship between Facebook addiction and loneliness, low self-esteem, narcissism, depression, poor social life among students in later life (Malik & Khan, 2015; Mehmood, Jafree & Sohail, 2020). Similarly, Sathar et al. (2016) found and stated no relationship of gender with social media usage and mental health because, according to Sathar et al., females tend to use fewer social media websites than males. However, the present findings showed an inverse

relationship between mental health and social media usage among youth. This study concluded that social media usage has a significant negative impact on the lives of people as it badly affects their mental health.

## Practical Implications and Suggestions for Future Studies

The findings of this research project shed light on the significant role of public awareness regarding social media usage and mental health problems. Though social media is an influential tool and surely will remain t to stay, but it is significant that individuals must understand the negative consequence of using more time on social media. As far as individuals get aware of social media side effects, they can alter it in an educated manner.

It has been understood that health care practitioners and care providers are well aware of negative consequences, but youth should also be aware of the risk regarding social media usage and mental health problems. The challenge for future studies is to carry on the process of exploration in order to draw the link between mental health and social media usage. Further studies are required to comprehend the logic behind the existence of why should people avoid the excessive usage of social media. There is a paucity of longitudinal studies in the current domain and context. However, further studies should be conducted at the country level to generalize the findings and provide a framework for drawing policies in order to control the situation to avoid serious future consequences.

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