



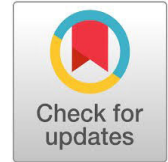
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A Quantitative Research on the Level of Social Media Addiction and its Effects on Psychological Health Among Undergraduate Students of Pakistan.



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ABSTRACT

Using social networks in access and getting addicted to these applications has negatively influenced the mental health of the users. The objective of the study was to inspect the effects of social media applications including WhatsApp, Face Book, Twitter, TikTok, Snapchat, and Instagram on the intensity of psychological problems including aggression, depression, and suicidal ideation among undergraduate students (N=490) both males and females with the age range from 18 years to 25 who were addicted (N=297) and non-addicted (N=193) to these social media applications. It was hypothesized that the scores of addicted students will be high on aggression, depression, and suicidal ideation. Purposive sampling technique was used and Bergen Social Media Addiction Scale, Aggression Questionnaire, Beck Depression Inventory II, and Beck Scale for Suicidal Ideation were administered on the students. T-test was used on SPSS version 20 to examine the statistics. Results of the study suggested that undergraduates with social media addiction have more aggression, depression, and suicidal ideation as compared to non-addicted undergraduates. The results of the project led to some practical implications. There should be some counselors and motivational lecturers in all the educational institutions to educate the students to use the social media applications in a beneficial way. Secondly, all the educational institutions must have mental health centers to deal with the effected students. Lastly, some subjects or programs should be included in the curriculum which can guide the students to use social media in a fruitful way.

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1. INTRODUCTION

Social media by its definition is a technology which is used for sharing information, feelings, and opinions. These forums like WhatsApp, Face Book, Twitter, TikTok, Snapchat, and Instagram that help to connect with other people living anywhere in the world. (Dollarhide, 2021). Guofano (2022) explained that WhatsApp is a popular social media app

which was found in 2004 by Brian Acton and Jan Koum. Hall (2022) described that Facebook is an American social site which was found in 2004 by Mark Zuckerberg, Eduardo Saverin, Dustin Moskowitz, and Chris Hughes.

Twitter is defined by Britannica (2022) as a short message of no more than 280 characters which is called as a tweet which is mainly popular among politicians and used in politics. It was created by Jack Dorsey in March 2006. D'Souza (2022) defined TikTok as a social media application where users can share a video of 15 to 60 seconds and it was introduced by a Chinese technology company ByteDance in 2016. Bates (2021) reported that Snapchat was launched in 2011 to share pictures and instant messages with friends. Stegner (2021) said that Instagram was launched in October 2010 on iPhone but later on became available on other Android during 2012 to share pictures, videos, and messages.

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Prajapati (2020) declared that social media has greatly influenced the lives of people. There are multiple advantages of using social media such as connectivity, education, information updates, and awareness, sharing things with others, helping to build communities, using apps for noble deeds, brand reputation, promotion, and awareness. Beside advantages, social media also offer many disadvantages such as it affects quick-witted skill, leads to distress to someone's feelings, mental absence, lack of understanding and thoughtfulness, lack of family pleasant time, cyberbullying, laziness, cheating and relationship issues, and addiction.

Kemp (2020) found that there are 76.38 million people who use internet and 37.00 million consumers of internet are in Pakistan and 61.34 people of Pakistan use internet and among these 46.00 million are using different social media applications. Zayed (2022) described that social media addiction is problematic and can result into many psychological issues as anxiety, depression, stress, loneliness, procrastination, and much more.

Warburton and Anderson (2015) defined aggression as a social behavior of human beings in which one person can hurt another person physically or by words. It can be an action or a reaction, spontaneous or planned. Schimelpfening (2021) illustrated that depression is basically a disturbance of mood which affects the thoughts, feeling, and behavior of a person with symptoms such as fatigue, low mood, guilt feelings or feelings of worthlessness, lack of concentration etc. According to Purse (2019) suicidal ideation is a situation when one wants to finish his life. Sometimes, the wish to end one's life is passive which means only a wish to die but sometimes a person actively and earnestly make schemes to cease his/her life.

2. LITERATURE REVIEW

Kumari et al. (2021) found that a person's inability to control the use of social media is related to aggressive behavior such as spousal abuse and physical assaults. Terizi et al. (2021) reported that individuals who are engaged in online interactions also exhibit aggressive symptoms. John et al. (2020) said that excessive use of services offered by social networking platforms has affected the emotional and psychological robustness of the consumers and causes multiple psychological problems including aggression.

Medrut (2021) explored and found that use of social media applications results in depression among college students. Daniels et al. (2021) and Islam et al. (2021) confirmed through their studies that use of social media has many negative psychological outcomes and depression is one of the main outcomes. Frenn et al. (2022) also established that social media addiction and depression correlated positively.

Sherrell (2021) and Alsunni and Latif (2021) highlighted that social media usage has become an essential part of our lives and is also increasing depression. Catalado et al. (2021) and Dailey et al. (2020) highlighted that social media has brought profound changes in human behavior and psychological problems such as depression. Hamilton et al. (2020) and Miller (2021) revealed that consumers of

platforms proposed by Social Media especially Facebook and Instagram are at a higher risk of depression.

Gramigna (2020) highlighted that the rate of suicide is increasing among youth. Among many possible factors of suicide, rising usage of social networking sites is a major cause for suicide. Sedgwick et al. (2019) reported that social media usage has increased significantly and is a common factor of suicide. Sami et al. (2018) also found a positive correlation between wish to attempt suicide and social networking sites. Mendes et al. (2023) and Prasetyo et al. (2021) tried to explore the phenomenon of social media use and its relationship with mental health. They all confirmed that internet addiction has a significant association with suicidal ideation.

Objective

The objective of the research is as follows:

- To explore the impact of social media addiction on aggression, depression, and suicidal ideation among undergraduate university students.

Hypotheses

The study has the following hypotheses:

- The level of aggression is high among undergraduate students who use social networking platforms excessively as compared to the students who do not use social media excessively.
- The intensity of depression among university students who are addicted to social media is high as compared to the students who are not addicted to social media.
- Students who are addicted to social media, as compared to the students who are not addicted to social media, have higher level of suicidal ideation.

3. METHODOLOGY

Research Design

This is a quantitative study which uses cross-sectional research design.

Sample

Sample is selected from different colleges and universities of Abbottabad city using Purposive sampling technique. According to an estimate, the total number of students both males and females in different universities and colleges in Abbottabad city with the age range of 18 years to 25 years were 25000 to 30000. So, the desired sample size for the present study was 381 with a confidence level of 95% and a margin of error 4% by using online Raosoft sample size calculator. Both males and females undergraduates were selected and range of their age was 18 years to 25 years. After gathering the data, the questionnaires of 110 participants were discarded because of incomplete questionnaires and only 490 participant's 234 (48%) male and 256 (52%) female's questionnaires were included for making the results.

Scales

Demographic Information Sheet

Demographic information sheet includes name, age, gender, and education of the students. There is also a statement about the types of social media applications including WhatsApp, Face Book, Twitter, TikTok, Snapchat, and Instagram and students have to mark a ✓ on all those they were use.

Bergen Social Media Addiction Scale (BSMAS)

BSMAS is formed by Andreassen et al (2012) and is a modified form of Bergen Facebook Addiction Scale. The scale has six items that can be rated on 5-point Likert scale and it is used to assess the intensity of addiction of social networking sites. There is no reverse scored item. Total score are 30 and 12 or above scores show that individual is having addiction of social media. The scale has good reliability $\alpha = .08$. It can be used for educational and academic purposes by the students and researchers.

Aggression Questionnaire (Buss and Perry, 1992)

Aggression Questionnaire is consisted of 29 items and it was developed by Buss and Perry in 1992 which is a five-point likert scale. Questions 9 and 16 are reversed scored items. The scale has total four factors i.e. Physical Aggression (PA), Verbal Aggression (VA), Anger (A) and Hostility (H). The test requires 2.5 minutes to be completed. Higher scores are an indication of aggression. This scale can be used by students and researchers for academic purposes. The overall reliability of the scale is .89

Beck Depression Inventory II(BDI-II)

BDI II is developed by Aron Beck in 1996 which is a 21-item scale. BDI-II is 4-point likert scale where each item ranges from 0 to 3. Total scores can range from 0 to 63 where 0-13 indicate minimal depression, 14-19 show mild form of depression, 20-28 means moderate depression, and 29-63 refers to alarming depression. Reliability of the scale is .93 and its validity is also .93.

Beck Scale for Suicidal Ideation BSSI

The scale BSSI was also developed by Beck in order to measure the suicidal ideation and to find out those individuals who have a greater probability to commit it. The scale has 19 sets of statements each containing three. The scores of every statement range from 0 to 2 and total scores are 38. High scores are an indication of high suicidal ideation with no cutoff scores. This instrument is designed to administer on the people of 17 years and above. The completion time for the scale is 5 to 10 minutes. The reliability is .90 for inpatients and .87 for outpatients.

Procedure

To conduct the study, 600 students of BS programs from different colleges and universities were approached by the researcher personally. The participants were given

comprehensive information regarding aim, process, and benefits of this project. Informed consent was secured from all members and they were given surety about their confidentiality. Researcher has also given proper instructions to the students about how to fill the questionnaires. Researcher herself has administered the assessment scales on the participants. The data was collected in two phases. At first phase, Bergen Social Media Addiction Scale (BSMAS) was administered on the students who were using social media applications on daily bases and students with social media addiction and students with no social media addiction were selected. After that the rest of questionnaires including Aggression Questionnaire, Beck Depression Inventory II, and Beck Scale for Suicidal Ideation were administered on all the students. All the students were thanked at the end of data collection for their time, cooperation, and provision of data.

Ethical Considerations

After selecting the sample, the researcher has explained the purpose of the study to the selected students. Proper instructions were given to all the students about how to fill the questionnaires. Permission was obtained from all the participants and only those were selected who showed the willingness. Participants were not pressurized or forced to take part in the research. Confidentiality of the results was ensured to all the participants.

Results

Data is carefully analyzed on SPSS using reliability test, internal consistency, correlation, and independent sample t-test and following results are obtained.

Table 1
Demographic characteristics of participants

Basic Characteristics	Social Media Addicted		Non-addicted	
	n	%	n	%
Groups	297	60.61%	193	39.38%
Gender				
Male	144	48.48%	89	46.11%
Female	153	51.51%	104	53.88%
Social media apps use %				
WhatsApp	297	100%	193	100%
Face Book	297	100%	76	39.37%
Twitter	137	46.12%	17	8.80%
TikTok	253	85.18%	43	22.27%
Snapchat	171	57.17%	11	5.69%
Instagram	239	80.47%	28	14.50%

There are 490 students. 297 (male = 144, female = 153) are social media addicted and 193 (male = 89, female = 104) are non-addicted to social media. Among social media addicted students 297 students (100%) are using WhatsApp, 297 (100%) are using Facebook, 137 (46.12%) are using Twitter, 253 (85.18%) are using TikTok, 171 (57.17%) are using Snapchat, and 239 (80.47%) are using Instagram. Among social media non-addicted students 193 (100%) are using WhatsApp, 76 (39.37%) are using Facebook, 17 (8.80%) are using Twitter, 43 (22.27%) are using TikTok, 11 (5.69%) are using Snapchat, and 28 (14.50%) are using Instagram.

Table 2

Psychometric Properties of BSMAS, Aggression Questionnaire, Beck Depression Inventory, and Beck Suicidal Ideation Scale (N=490)²

Measures	No. of Items	M	SD	Range	Cronbach's a
BSMAS	6	13.32	5.61	6 – 30	.82
Aggr Q	29	78.11	20.68	36 – 129	.90
BDI	21	15.74	12.52	0 – 53	.92
BSIS	19	10.49	7.54	0 – 33	.86

Note. BSMAS= Bergen Social Media Addiction Scale, Aggr Q= Aggression Questionnaire, BDI= Beck Depression Inventory, and BSIS= Beck Suicidal Ideation Scale.

It is obvious from table no 2 that all the scales have good reliability that ranges from acceptable to excellent.

Table 3

Total Item Correlation of Bergen Social Media Addiction Scale (BSMAS; N = 490)

No of Items	r
1	.737**
2	.800**
3	.715**
4	.731**
5	.694**
6	.743**

*p< .05, **p< .01

Table no 3 shows significant total item correlation of Bergen Social Media Addiction Scale.

Table 4

Total Item Correlation of Aggression Questionnaire (AQ; N = 490)

No of Items	R
1	.647**
2	.590**
3	.568**
4	.626**
5	.527**
6	.466**
7	.597**
8	.651**
9	-.033
10	.465**
11	.535**
12	.553**
13	.530**
14	.532**
15	.468**
16	-.105
17	.504**
18	.633**
19	.562**
20	.553**
21	.587**
22	.649**
23	.493**
24	.585**
25	.662**
26	.581**
27	.575**
28	.584**
29	.530**

*p< .05, **p< .01

Table no 4 shows significant Total Item Correlation of Aggression Questionnaire

Table 5

Total Item Correlation of Beck Depression Inventory (BDI; N = 490)

No of Items	R
1	.592**
2	.679**
3	.665**
4	.672**
5	.617**
6	.665**
7	.735**
8	.651**
9	.688**
10	.614**
11	.667**
12	.601**
13	.659**
14	.519**
15	.662**
16	.630**
17	.647**
18	.643**
19	.459**
20	.625**
21	.484**

*p< .05, **p< .01

Table no 5 shows significant Total Item Correlation of Beck Depression Inventory

Table 6

Total Item Correlation of Beck Suicidal Ideation Scale (BSIS; N = 490)

No of Items	R
1	.567**
2	.625**
3	.667**
4	.491**
5	.564**
6	.509**
7	.367**
8	.533**
9	.508**
10	.521**
11	.354**
12	.463**
13	.664**
14	.536**
15	.555**
16	.528**
17	.551**
18	.626**
19	.643**

*p< .05, **p< .01

Table no 6 shows significant Total Item Correlation of Beck Suicidal Ideation Scale

Table 7

Correlation between BSMAS, Aggression Questionnaire, Beck' Depression Inventory, and Beck Suicidal Ideation (N=490)

Variables	M	SD	1	2	3
1. BSMAS	15.58	6.20			
2. Aggr	79.25	23.97	.65**		
3. BDI	25.30	15.26	.772**	.59**	
4. BSIS	15.07	10.05	.80**	.63**	.82**

** p < 0.01; * p < 0.05; N = 490; BSMAS= Bergen Social Media Addiction Scale, EFQ=, Aggr Q= Aggression Questionnaire, BDI= Beck Depression Inventory, and BSIS= Beck Suicidal Ideation Scale.

The table no 7 indicates a significant positive correlation of social media addiction with aggression, depression, and suicidal ideation.

Table 8

Mean Difference in Aggression among both Social Media Addicted and Non-addicted Students (N=490)

Measure	Social Media Addicted (n=297)		Non-addicted (n=193)		t(488)	p	UL	LL	Cohen's d
	M	SD	M	SD					
Aggr	91.89	17.86	59.81	18.58	19.11	.000	28.78	35.37	1.760161

Aggr = Aggression

The mean scores of social media addicted students on aggression are 91.89, with a standard deviation of 17.86, while the mean test scores of non-addicted students on aggression are 59.81, with a standard deviation of 18.58. The t-test value is 19.11 with df =488 (p<.000) which confirmed our first hypotheses. The effect size for the difference between both the groups is also find out using Cohen's d which resulted in d = 1.760161which is a very meaningful effect.

Table 9

Mean Difference in Depression among both Social Media Addicted and Non-addicted Students (N=490)

Measure	Social Media Addicted (n=297)		Non-addicted (n=193)		t(488)	p	UL	LL	Cohen's d
	M	SD	M	SD					
Dep	34.79	9.76	10.69	9.61	26.84	.000	22.33	25.86	2.485683

Dep = Depression

The mean scores of the social media addicted students on depression are 34.79 with a standard deviation of 9.76 while the mean scores of non-addicted group of the students are 10.69 with a standard deviation of 9.61. The computed value of t-test is 26.840 with df =488 and p<.000 which show that our second hypotheses related to depression is also accepted. The Cohen's d computed value was 2.485683 which indicated a very meaningful effect size.

Table 10

Mean Difference in Suicidal-ideation among both Social Media Addicted and Non-addicted Students (N=490)

Measure	Social Media Addicted (n=297)		Non-addicted (n=193)		t(488)	p	UL	LL	Cohen's d
	M	SD	M	SD					
Sui Id	21.59	6.44	5.04	5.13	30.01	.000	15.46	17.63	2.840231

Sui Id = Suicidal ideation.

The mean scores on suicidal ideation for the students who were addicted of social media applications are 21.59 with a SD of 6.44 and the mean scores of non-addicted students are 5.04 with a standard deviation of 5.13. The

t-test value is 30.01 with df =488 and p<.000 which has supported our last hypotheses related to suicidal ideation. The Cohen's d value was 2.840231 which is an indication of a high effect size.

Discussion

Social media has become the basic necessity in the lives of human beings. Petrosyan (2023) reported that about 5.18 billion people were using internet during 2023 and among these 59.9% were social media users. Chaffey (2023) also highlighted the rise in social media users and confirmed that 60% people of the world use social media daily for about two hours and 24 minutes.

The first hypothesis of the study is that the level of aggression is high in social media addicted university students then the non-addicted students. The results indicated a significant difference between the scores of both the groups of the students on aggression and the first hypothesis is accepted. This result is supported by many other researches such as Rogers and Pinkney (2017), Patton et al. (2014), Albashrawi et al. (2021) and Young et al. (2017) found a high level of aggression among these adolescents who used social media networks. Marwick (2014), Uzochukwu and Anierobi (2021), and Martinez-Ferrer, et al. (2018) also declared a positive correlation between aggression and social media among subjects.

Another hypothesis is that depression among social media addicted students will be high as compared to the students who are not addicted to social media. The results revealed that social media addicted students have high level of as compared to non-addicted students. These results are supported by the study of Oberst et al. (2017) and Barman et al. (2018) investigated the psychological outcomes of social media use among adolescents and reported that among other psychological issues, depression is an issue which is a product of excessive social media use.

Medrano and Rosales (2018), Kaya et al. (2020) and Matthes et al. (2020) also confirmed that use of social media applications including Facebook, YouTube, WhatsApp, and Instagram have a clear association with depression. Bashir and Bhat (2017), Puukko et al. (2020) and Kim et al. (2006) investigated the active excessive use of social networks by adolescents and its relation with depressive symptoms. The results indicated that depressive symptoms are an indication of active use of social media use. Hunt et al. (2018), Shah and Guha (2019) also highlighted that social media use has led to multiple psychological, emotional, and physiological issues among youth including depression.

The last hypothesis of the study is that social media addicted students will have higher level of suicidal ideation in comparison with non-addicted students. According to the results on suicidal ideation, the mean scores of social media addicted students proved that both the groups are significantly different as far suicidal ideation is concerned. The effect size is also high as showed by Cohen's d. The results are supported by the studies of Twenge et al. (2017) Abi-Jaoude et al. (2020) and Robinson and Smith (2022) also reported that young adolescents who spent much

time using social media and smartphones, are more prone towards suicidal attempts than those who do not spent much time using smartphones and social media.

Rosales et al. (2020), Srivastava et al. (2019), Park et al. (2012) and Brailovskaia et al (2021) also highlighted that problematic use of social media badly influence the psychological health of the adolescents and result in multiple psychological problems including suicidal ideation. Arrazy et al. (2021) also confirmed that a positive correlation exist between suicidal behavior and addiction to social networking sites.

4. CONCLUSION

Despite some limitations, this study has brought awareness about some negative effects of using social networking applications by the undergraduate students. The study has made the contribution in the growing body of evidences that suggest that there are multiple negative physical and psychological outcomes of using social media excessively. It is clearly observed from the findings that students are addicted to social media applications which is ruining their psychological health and leading them towards procrastination as well. This behavior should therefore be controlled. Students should be taught to lessen their time spent on screen and also how to utilize these platforms for their benefits. Teachers and educational institutes should develop programs for the guidance of the students about how to secure them from the dark sides of this phenomenon and how to promote their physical and psychological health instead of getting mentally disturbed. There should be online counseling programs and guidance available for the students to make them healthy units of society.

Conflict interests

The authors has declared that no competing interests exist.

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