

SOCIAL MEDIA ADDICTION, SOCIAL ISOLATION AND MOOD SWINGS AMONG ADOLESCENTS DURING COVID-19 PANDEMIC

^{*1}Amna Khalid Qazi, ²Talat Sohail

^{*1}MS Scholar, Department of Psychology, Lahore College for Women University

²Head of Department, Department of Psychology, Lahore College for Women University

^{*1}amna.khalid.qazi@gmail.com; ²talat_lcwu@yahoo.com

DOI: <http://doi.org/10.5281/zenodo.18935321>

Keywords:

Social Media Addiction, Social Isolation, Mood Swings, Adolescents, Covid-19 Pandemic, Quantitative Analysis, Qualitative Analysis

Article History

Received on 12 Feb, 2026

Accepted on 05 March, 2026

Published on 06 March, 2026

Copyright @Author

Corresponding Author:

Amna Khalid Qazi

Abstract

This study addresses the problem statement whether the social media addiction is a predictor of social isolation and mood swings among adolescents during covid-19 pandemic. Quantitative method was applied. A sample of two hundred (N=200) adolescents was chosen via purposive sampling technique. Gender profile was balanced (male=100, female=100). Data was collected from various public and private schools and colleges of Lahore city. Correlational research design was used. Linear regression was applied for statistical analysis. Findings of the study indicated that social media addiction is a significant predictor of social isolation and mood swings among adolescents. Thus, hypotheses (H1 and H2) are supported.



INTRODUCTION

During the start of 2020, the first wave of corona virus ailment 2019 (COVID-19) was verified in all European countries. This infection occurs due to the Severe Acute Respiratory Syndrome-CoronaVirus-2 (SARS-CoV-2). It sprouted from China during the last months of 2019. Afterward, the World Health Organization (WHO) considered the Europe as being the active hub of the COVID-19 endemic. Preventive measures were taken by all countries to mitigate the pandemic, as a swift rise of new cases and demises were seen. These actions mostly integrated the compulsion of lockdowns and restraints across the continent. As on March 18th, almost 250 million populace of Europe was in lockdown. Subsequently, the virus spread in other continents of the world. The

disease brought the whole world into a state of lockdown, bringing its knees down to the earth within a shorter period of time.

Another modification which occurred during the lockdown and quarantine is the increase in consumption of digital platforms all over the world. 'Social media' involves the plinth that allows communication through digital media. Social media involves various forms such as blogs, email, social networking sites, message boards, apps, games and entertainment (Manning, 2014).

Adolescent age is defined as individuals between the ages of 13 to 19 years old. It is a distinctive stage of human life as it lays foundations for good mental and physical health for upcoming endeavors (WHO, 2018). This age is very crucial in individual's life, as many physical, psychological,

cognitive, emotional and biological changes occur. A huge social change also occurs, as the individuals shift from school to college. Peer pressure also plays a vital role during this phase.

Erik Erickson (1950) proposed a theory for psychosocial development of human beings. According to the psychosocial stages of this theory, the fifth stage which is adolescence age takes place during teenage years e.g. twelve to eighteen years. During the age of adolescence an individual develops identity versus role confusion. Social relationships are the important events of this stage. Strong sense of self, and feelings of control and independence emerges through proper encouragement and reinforcement during this phase.

A developmental biologist Jean Piaget (1936) proposed a theory about stages of cognitive development. He recorded the intellectual abilities and development of humans at different stages of life. According to his theory, formal operational is the fourth and last stage of cognitive development which takes place during adolescence.

Sleep related problems and insomnia are also considered as mediators for association among SMA and dejected mood (Vernon et al., 2017; Li et al., 2017). Perceived social support (Frison & Eggermont, 2016) and rumination (Wang et al., 2018) are also mediating factors between depressed mood and social media usage. Researchers studied further aspects such as environmental factors which can affect the development of teen agers, personal traits (O'Dea & Campbell, 2011), socio-cultural factors which expects the role of adolescents in society (Tsitsik et al., 2014), motivation for using online media (O'Dea & Campbell, 2011; Barry et al., 2017), peer feedback and social comparison (Nera & Barbr, 2014), lack of physical activity (Lewis & Sampasa-Kanyinga, 2015), and self-esteem (Banjanen, 2015).

The behavioral addiction can be understood by bio-psycho-social perspective. Many psychological, biological, and social factors play role in the development of addiction.

Theories of addiction

Biological, psychological, cognitive, and social theories can be used to understand the addictive behavior indulged in social media.

a) **Biological model of addiction**

Biological model emphasizes on genetics, brain structure, and brain chemistry for the addictive behaviors. Practitioners and scientists assume that it is reasonable to apply these models to all type of addictions. According to this model, person's physiology (neurobiology) causes addiction. Reward-centric pathways in brain circuits, lead to dopamine release in the structure. Other neurotransmitters including opioids, serotonin, and norepinephrine contribute to addiction.

b) **Psychological process of addiction**

Professor Jim Orford (1985) proposed an Excessive Appetites model for addiction. This model focuses on psychological aspect of addiction.

c) **Cognitive theory**

Aaron Beck, father of cognitive therapy, suggested in his book (1993) that addictions come from painful and negative psychological core believes such as 'I am a failure' or 'I am unlovable'.

d) **Social theory of addiction**

Albert Bandura (1977) proposed a 'social learning theory'. Social learning theory suggests that people learn through observing and imitating other's behaviors. According to this theory observing other people engaged in addictive behaviors can lead to the addictions of substances and activities.

The current study's significance

The current study assessed the impact of social media use on social isolation and mood swings of *adolescents* aged 13 to 19, representing school and college students. The intention was to elevate the increasing issue of social media use among young adolescents in our society and its effects on the mental well-being.

Rationale for the Research

The main focus of the research is to examine the phenomenon of social media addiction, social isolation and mood swings among adolescents of Lahore, Pakistan during COVID-19 pandemic. During the epidemic, educational institutions are using online platforms for learning and assessments. Thus, bringing the students more close towards the excessive usage of internet and

gadgets. Adolescents are having more chances to grab the social media. In result, they are getting socially isolated, even having least contact with close family members and the people around.

Objectives of the study

Main objectives of the study are described underneath:

- i) To predict the relationship between social media addiction and social isolation among adolescents during Covid-19 pandemic.
- ii) To examine whether the social media addiction affects the mood swings of the adolescents in the course of current endemic.

Hypotheses

Based on the analysis of existing literature, the following hypotheses were postulated:

- i. Social media addiction is a significant predictor of social isolation among adolescents.
- ii. Social media addiction is a significant predictor of mood swings among adolescents.

LITERATURE REVIEW

The worldwide endemic of COVID-19 has brought dynamic changes in the global communities. Corona virus has forced educational institutes to move from in person to online education, thus increasing the usage of online/social media.

Social media are internet based online sources that give users a chance to interrelate, and show themselves whether in genuine way or fake one, along with both wide and constricted audiences. (Carr & Hayes, 2015).

Social media comprises of messenger platforms and social networking sites (Wartberg et al., 2020). Social media has become a major source of our daily learning, with the advancement of technology, like smart phone devices and internet. There were about two billion social media users in the world during 2017, and it is expected that this ratio will amplify up to three billions till the ending of 2021 (Statista, 2020).

Social Media Addiction (SMA)

According to Bate (2010), today's youth is very much interested in social media, so the teachers are willing to bring out the best use of this source for the adolescents in order to add value to the education system. But some teachers consider

social media as disturbance in the classrooms (Selwyn, 2010). Teachers are trying to come up with a solution for how to use this medium as an academic resource and the distracting temptations in adolescents for this technology tool (Cheever, Rosen, & Carrier, 2013). If a planned academic content is not available, education with social media can increase the apprehension. (Vermeulen, Van Buuren, Van Acker, Kreijns, 2011). **Existing literature on SMA in Pakistan**

A study was conducted by Rabia Ali in 2016 at International Islamic University, Islamabad. Masters level 175 students participated in the survey, which were excessive users of social media. Findings revealed that 94 percent of the respondents acknowledged heavy use of social media negatively affects the family relationships. Students reported that they have been isolated from family, friends and even from themselves, which leads towards introvert personalities. According to this study social media is also believed to be used for latest fashion trends, almost 70% of the respondents strongly agreed about it.

Recently a study was conducted on the influence of social media on youngsters by Mahwish et al. (2020) at GC women University, Sialkot. According to the results, fifty nine percent of the respondents strongly agreed that social media brings awareness in the youth. Eighty nine percent of the respondents agreed that social media is helpful in searching jobs for the youth. Ninety six percent reported that social media provides information about the current affairs of the country. Regarding the disadvantages, ninety three percent respondents agreed that excessive use of social media causes health issues, ninety four percent agreed that unwanted information creates confusion among youth. Hence, it was documented that the use of social media has both negative and positive effects on youth. Thus, it is recommended that government and authorities of public and private institutions should pay attention towards the optimistic and constructive use of social media among youth.

Social isolation

"Belonging" is relatedness to people, places, or things, and is necessary for individual's personality

and social well-being (Hill, 2006). On the other hand, social isolation means distancing of an individual, physical or psychological, from his or her needed relationships and with other persons. (Ilene Morof Lubkin, Pamala D. Larsen, 2013).

Mood swings

Mood swings are characterized by quick changes in mood. It may include a range from minor daily mood changes to significant mood changes (i.e. mood disorders).

Doctors suspected earlier that Covid-19 was associated with mental health issues. According to a new study, almost twenty percent of corona patients experienced a mental health problem i.e. anxiety, dementia or depression during three months after the diagnosis.

A recent study suggests that people diagnosed with corona virus may have a greater risk for developing an anxiety or mood disorder after the recovery of disease.

RESEARCH METHODOLOGY

Following is the methodology, applied for the current study.

Research design

Correlational research design was used to explore the relationship between variables. The reason to choose the correlation research design instead of other test methods is that causal relationships are to be found. Researcher cannot modify the independent variables, because it is not viable or unrealistic to manipulate this kind of variable (Kanner et al., 1981).

Participants

a) Target population

The target population was both male and female adolescents enrolled in various schools and colleges of Lahore, between the ages of thirteen to nineteen, who use the social media on daily basis.

b) Sampling strategy

Purposive sampling was applied to choose those adolescents who claimed to be the regular and frequent users of social media.

c) Sample

A sample of (N=200) adolescents was selected from public and private schools and colleges. Gender profile was balanced (*males=100* and *females=100*).

d) Screening Question

A screening question was being interrogated verbally, from all the participants before the distribution of the questionnaire, and that is:

Do you use the social media sites on daily basis minimum four to five hours ?

e) Inclusion and Exclusion criteria

Criteria for present study comprised of following:

- i. Male and female adolescents were selected.
- ii. Only students enrolled in either public or private schools and colleges were opted for.
- iii. The students were selected who reported to use social media on daily basis.

Data Collection

Data was collected during the months of April and May 2021, just after the lockdown of third wave of Covid-19 pandemic. The data collection was done in classroom settings.

Operational Definitions of the Variables

Operational definitions of the variables used in the study are as follows:

Social media addiction

Social media addiction is an irrational and excessive usage of online media that affects the quality of other activities in life (Griffiths, 2000, 2012).

Social isolation

Nicholson (2009) defined social isolation as a condition in which a human being is deficient in the sense of belonging to the social context, lacking of participation with others, decreased number of social contacts, and lacking in carrying out the quality of relationships.

Mood swings

Mood swings can be described as rapidly and intensely fluctuating emotions. During mood swings people may swiftly switch from happy and joyful feelings to irritable, angry or sad feelings (Leonard, 2020).

Measures

Three scales were being used for this study; Social Media Addiction Scale- Student Form (SMAS-SF), Classmates Social Isolation Questionnaire for Adolescents (CSIQ-A), Moods and Feelings Questionnaire (MFQ).

Social Media Addiction Scale – Student Form (SMAS-SF)

Social Media Addiction Scale – Student Form (SMAS-SF) is developed by a Turkish psychologist Şahin. C. (2018).

Classmates Social Isolation Questionnaire for Adolescents (CSIQ-A)

Classmates Social Isolation Questionnaire for Adolescents (CSIQ-A) is developed by Italian psychologists Alivernini.F. et al. (2016).

Moods and Feelings Questionnaire (MFQ)

Moods and Feelings Questionnaire (MFQ) is developed by Angold, A. et al. (1995).

Procedure

Research synopsis was approved by the BoS (Board of Studies). Instruments (scales) were selected for the data collection of the study. Permission to use the scales was acquired from the authors via email. A sample of (N=200) students filled the questionnaire.

Before the collection of data, a brief summary of research project was explained to the participants. Verbal informed consent was taken and assurance was given for the confidentiality of the information.

Statistical analysis**Table 4.1:** *Description of Sample's Demographic Characteristics (N=200)*

Variables	Sample (N=200)	
	f(%)	M(SD)
Gender		1.50(.501)
Male	100(50. %)	
Female	100(50. %)	
Age		2.46(1.06)
13-14 years	45(22.5%)	
15-16 years	62(31.0%)	
17-18 years	50(25.0%)	
19 years	43(21.5%)	
Qualification		2.18(.78)
Below Matric	46(23.0%)	
Matric/ O Level	71(35.5%)	
F.A, FSC, A Level	83(41.5%)	

All of the participants, as shown in table 4.1, are between the ages of 13 to 19 years (adolescents). Gender profile was balanced i.e. fifty percent males and fifty percent females. The education profile of participants demonstrated these figures: below

Table 4.2: *Reliability Coefficient Scales (N=200)*

Normality of the data was tested by using the values of Skewness and Kurosis. Reliability of the scales was tested using the values of Cronbach's alpha.

Then the statistical analysis was performed using linear regression analysis to determine the impact of social media addiction on social isolation and mood swings.

Ethical considerations

Ethical considerations followed by the researcher, in this study are as follows:

- Participants were not harmed physically or psychologically.
- The process was not too lengthy and time taking for the participants, during the process they were comfortably sitting in their classrooms.
- The dignity of the participants was maintained during the research process.

RESULTS

Demographic characteristics were identified as age, gender and qualification.

Demographic characteristics

The demographic information of the participants is as follows.

Matric (23.0%), Matric/ O level (35.5%), F.A, FSC, A level (41.5%).

Reliability test

The following information shows the reliability of the scales.

Variable	K	α
S.M.A	29	.93
S.I	8	.85
M.S	13	.86

Note: α = Cronbach's Alpha, S.M.A=Social Media Addiction, S.I=Social Isolation, M.S= Mood Swings

The internal consistency of Social media addiction scale - student form (SMAS-SF) was .93, Classmates social isolation questionnaire for adolescents (CSIQ-A) scale was .85, and Moods and feelings questionnaire (MFQ) was .86.

Normality Test

Normality of the data was tested by the values of Skewness and Kurtosis, and the histogram and Q-Q plots. The value of Skewness was less than 1,

and the value of Kurtosis was less than 3, indicating that the data was nearly normally distributed.

The Problem statement I

To investigate social media addiction as a predictor of the social isolation during Covid-19.

Hypothesis I

H1: Social media addiction is a significant predictor of social isolation among adolescents.

Table 4.3: *Linear regression analysis on social media addiction as a predictor of social isolation*

Variable	Social Isolation		
	B	SE	B
SMA	.078**	.018	.293
R ²	.086		
F	18.556		

Note; ** $p < .000$, R²= Adjusted R Square, B= Standardized Coefficients, SE= Standard Error, b Unstandardized Beta Coefficients, SMA=Social Media Addition.

Table 4.3 demonstrates the impact of social media addiction on social isolation. The R² value of .086 revealed that the predictor variable explained 8% variance in the outcome variable with $F(1,198) = 18.5$, $p < .001$. The findings revealed that social media addiction positively predicted social isolation ($\beta = .29$, $p < .001$).

R square value of .086 means 8.6% variance is explained in the data. The independent variable (social media addiction) in the model can predict 8% variance in the dependent variable (social isolation). The significance value $p = .000$ is less

than .001 ($p < 0.001$), indicating significant impact of SMA on social isolation. The t value is $t = 4.308$ which is greater than 1.96, which shows that there is a significant impact of social media addiction on social isolation.

The Problem statement II

To investigate social media addiction as a predictor of mood swings during Covid-19.

Hypothesis II

H2: It was hypothesized that social media addiction is a significant predictor of mood swings among adolescents.

Table 4.4 : *Linear regression analysis on social media addition as a predictor of mood swing*

Variable	Mood Swing		
	B	SE	B
SMA	.052	.016	.223
R ²	.050		
F	10.380		

Note; $p < .001$, R^2 Adjusted R Square, B = Standardized Coefficients, SE = Standard Error, b Unstandardized Beta Coefficients, SMA, Social Media Addiction.

Table 4.4 illustrates the impact of social media addiction on mood swings. The R^2 value of .050 revealed that the predictor variable explained 5% variance in the outcome variable with $F(1, 198) = 10.3$, $p = .001$. The findings revealed that social media addiction non-significantly predicted mood swings ($\beta = .223$, $p = .001$).

The value of R^2 is .050 which means 5% change in mood swings can be accounted by social media addiction. So the R^2 (change/variance) is not significant. The significance value is .001 which indicates that there is not a significant impact of social media addiction on mood swings. The t value is 3.222 which is greater than 1.96 showing that there is some relationship between SMA and mood swings.

DISCUSSION

The current research scrutinized the putative relationship between social media addiction, social isolation and mood swings among adolescents. The study yielded the empirical findings that the social media addiction is associated with social isolation and mood swings among adolescents during COVID-19 pandemic.

It was hypothesized that "Social media addiction is a significant predictor of social isolation among adolescents". Test results indicated that ($b = .078$; $t = 4.308$; $F = 18.556$, $p = .000$) and it is also observed that social media addiction has 78% (standardized coefficient, B) impact on social isolation of adolescent's it is clearly stated that social media addiction ($p = .000$) is significant predictor of social isolation among adolescents. The findings are relevant to the studies mentioned in the section 'review of literature'. Internet holds a quite crucial place in the vim and vigor of the juvenile individuals today (Kuss and Griffiths, 2017; Keipi et al., 2017; Boyd, 2014). The role of the usage of internet in decreasing or amplifying the problems may vary according to the reasons and results of the internet usage (Mazzoni et al., 2016).

It was hypothesized that "Social media addiction is a significant predictor of mood swings among

adolescent". Test results indicated ($b = .052$; $t = 3.222$; $F = 10.380$; $p = .001$), it was observed that social media addiction has 52% (standardized coefficient, B) impact on mood swings of adolescents. In addition, it is clearly stated that social media addiction ($p = .000$) is a significant predictor of mood swings among adolescents. These findings are relevant to the existing studies mentioned in the earlier section of 'literature review'. In 2020, it was estimated that almost three billion internet users were using social media globally (Clement, 2020). Moreover, social media addiction also has significant impact on mood swings of youngsters (Krishnan, 2019).



CONCLUSION

To my best knowledge, this is the preliminary study conducted on the adolescents of Pakistan studying the aspects of social media addiction, social isolation, and mood swings during the pandemic COVID-19.

Both the hypotheses, that social media addiction is a significant predictor of social isolation among adolescents (H1) and social media addiction is a significant predictor of mood swings among adolescents (H2) were supported.

REFERENCES

1. Alabi, O. F. (2012). A survey of Facebook addiction level among selected Nigerian University undergraduates. *New Media and Mass Communication*, 10, 70-80.
2. Al-Menayes, J. J. (2014). The relationship between mobile social media use and academic performance in university students. *New Media and Mass Communication*, 25, 23-29.
3. Amichai-Hamburger Y, Vinitzky G. Social network use and personality. *Comput Hum Behav*. 2010;26:1289-1295.
4. Andreassen, C. S. (2015). Online social network site addiction: A comprehensive review. *Current Addiction Reports*, 2, 175-184. <https://doi.org/10.1007/s40429-015-0056-9>
5. Błachnio, A., Przepiorka, A., & Pantic, I. (2016). Association between Facebook addiction, self-esteem and life satisfaction: A cross-sectional study. *Computers in Human Behavior*, 55, 701-705. <https://doi.org/10.1016/j.chb.2015.10.026>
6. Boyd DM, Ellison NB. Social network sites: Definition, history, and scholarship. *J Comput Mediat Comm*. 2008;13:210-230.
7. Caplan, S. E. (2010). Theory and measurement of generalized problematic Internet use: A two-step approach. *Computers in Human Behavior*, 26, 1089-1097. <https://doi.org/10.1016/j.chb.2010.03.012>
8. Casale, S., Rugai, L., & Fioravanti, G. (2018). Exploring the role of positive metacognitions in explaining the association between the fear of missing out and social media addiction. *Addictive Behaviors*, 85, 83-87. <https://doi.org/10.1016/j.addbeh.2018.05.020>
9. Chou, H. T. G., & Edge, N. (2012). "They are happier and having better lives than I am": The impact of using Facebook on perceptions of others' lives. *Cyberpsychology, Behavior, and Social Networking*, 15, 117-121. <https://doi.org/10.1089/cyber.2011.0324>
10. Davis, R. A. (2001). A cognitive-behavioral model of pathological Internet use. *Computers in Human Behavior*, 17, 187-195. [https://doi.org/10.1016/S0747-5632\(00\)00041-8](https://doi.org/10.1016/S0747-5632(00)00041-8)
11. Duggan M, Smith A (2014) Social Media Update 2013. Pew Research Center.
12. Echeburua, E., & de Corral, P. (2010). Addiction to new technologies and to online social networking in young people: A new challenge. *Adicciones*, 22, 91-95. <https://doi.org/10.1016/j.addbeh.2009.09.003>
13. Griffiths, M. D. (2000). Internet addiction: Time to be taken seriously? *Addiction Research*, 8, 413-418. <https://doi.org/10.3109/16066350009005587>
14. K. Younus, 2018. "The power of social media: Negative and positive interpretations," *ISSRA Papers*, volume 10, number I, pp. 75&ndask;95
15. Karaiskos D, Tzavellas E, Balta G, Paparrigopoulos T. Social network addiction: A new clinical disorder? *Eur Psychiat*. 2010;25:855.
16. Koc, M., & Gulyagci, S. (2013). Facebook addiction among Turkish college students: The role of psychological health, demographic, and usage characteristics. *Cyberpsychology, Behavior, and Social Networking*, 16, 279-

284. <https://doi.org/10.1089/cyber.2012.0249>
17. Kuss DJ, Griffiths MD (2017). Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health* 14(3):311.
 18. Lam LT, Peng ZW, Mai JC, Jing J. Factors associated with Internet addiction among adolescents. *CyberPsychol Behav.* 2009;12:551-555. [PubMed] [Google Scholar]
 19. Lee G, Lee J, Kwon S. Use of social-networking sites and subjective well-being: A study in South Korea. *Cyberpsychol Behav Soc Network.* 2011;14:151-155. [PubMed] [Google Scholar]
 20. Lenhart A. *Social Networking Websites and Teens: An Overview*. Pew Research Center; Washington, DC, USA: 2007.
 21. Li L. Exploration of adolescents' Internet addiction. [accessed on 16 February 2011]; *Psychol Dev Educ.* 2010 26 Available online: http://en.cnki.com.cn/Article_en/CJFDTOTAL-XLFZ201005019.htm. [Google Scholar]
 22. McCrae, N., Getting, S. & Purssell, E. (2017). Social media and depressive symptoms in childhood and adolescence; a systematic review, 2(4):315-330.
 23. Monacis, L., De Palo, V., Griffiths, M. D., & Sinatra, M. (2017). Social networking addiction, attachment style, and validation of the Italian version of the Bergen Social Media Addiction Scale. *Journal of Behavioral Addictions*, 6, 178-186. <https://doi.org/10.1556/2006.6.2017.023>
 24. Öztemel K, Traş Z (2019). Some Personality of Facebook Density Relation with Features. *Türk Eğitim Bilimleri Dergisi* 17(1):121-139
 25. R. Ali, 2016. "Social media and youth in Pakistan: Implications on family relations," *Global Media Journal*, volume 14, number 26, at <http://www.globalmediajournal.com>, accessed 15 December 2020.
 26. Rabia, M. , Adnan, S. , Misbah, N. , Nawaz, H. , Gillani, M. and Arshad, A. (2020) Influence of Social Media on Youngsters: A Case Study in GC Women University Sialkot, Pakistan. *Creative Education*, 11, 285-296. doi: [10.4236/ce.2020.113022](https://doi.org/10.4236/ce.2020.113022).
 27. S. Mustafa, 2018. "A descriptive study for the impacts of using social media on the studies of university students in Pakistan (A literature review)," *European Scientific Journal*, volume 14, number 20.
 28. S. Naemi, E. Tamam, S.H. Hassan, and J. Bolong, 2014. "Facebook usage and its association with psychological well-being among Malaysian adolescents," *Procedia – Social and Behavioral Sciences*, volume 155, pp. 87-91.
 29. S. Zubair, 2016. "Development narratives, media and women in Pakistan: Shifts and continuities," *South Asian Popular Culture*, volume 14, numbers 1-2, pp. 19-32.
 30. Schneider LA, King DL, Delfabbro PH (2017). Family factors in adolescent problematic Internet gaming: a systematic review. *Journal of Behavioral Addictions* 6(3):321-333.
 31. Starcevic, V. (2013). Is Internet addiction a useful concept? *Australian and New Zealand Journal of Psychiatry*, 47, 16-19. <https://doi.org/10.1177/0004867412461693>
 32. Stavropoulos V, Adams BLM, Beard CL, Dumble E, Trawley S, Gomez R, Pontes HM (2019). Associations between attention deficit hyperactivity and internet gaming disorder symptoms: Is there consistency across types of symptoms, gender and countries? *Addictive Behaviors Reports* 9:100158
 33. Stone, C. B., & Wang, Q. (2018). From conversations to digital communication: The mnemonic consequences of consuming and sharing information via social media. *Topics in Cognitive Science*, 2018, 1-20. <https://doi.org/10.1111/tops.12369>
 34. Tang, J. H., Chen, M. C., Yang, C. Y., Chung, T. Y., & Lee, Y. A. (2016). Personality traits, interpersonal relationships, online social

- support, and Facebook addiction. *Telematics and Informatics*, 33, 102–108. <https://doi.org/10.1016/j.tele.2015.06.003>
35. Wu, A. M., Cheung, V. I., Ku, L., & Hung, E. P. (2013). Psychological risk factors of addiction to social networking sites among Chinese smartphone users. *Journal of Behavioral Addictions*, 2, 160–166. <https://doi.org/10.1556/JBA.2.2013.006>
36. Yen JY, Yen CF, Chen CC, Chen SH, Ko CH. Family factors of Internet addiction and substance use experience in Taiwanese adolescents. *CyberPsychol Behav.* 2007;**10**:323–329.
37. Zhou SX. MS Thesis. Chinese University of Hong Kong; Hong Kong, China: 2010. Gratifications, loneliness, leisure boredom and self-esteem as predictors of SNS-game addiction and usage pattern among Chinese college students.

