



Original Article

Impact of Social Media and Peer Pressure on Eating Behaviors of Adolescents

Maria Aslam¹, Jannat Gull Khan¹, Gullnoor Khan¹, Henna Asif¹, Nafela Atta¹, Aqsa Rafique¹, Tuba Tahir¹, Nabeera Ahmed¹, Ayesha¹¹ University Institute of Diet and Nutritional Sciences, UIDNS, The University of Lahore, Lahore, Pakistan.* maria.aslam@ahs.uol.edu.pk

ARTICLE INFO

How to Cite:

Aslam, M., Gull Khan, J. ., Khan, G. ., Asif, H. ., Atta, N. ., Rafique, A., Tahir, T. ., Ahmed, N. ., & ., A. (2021). Impact Of Social Media And Peer Pressure On Eating Behaviors Of Adolescents. Pakistan BioMedical Journal, 4(2). <https://doi.org/10.54393/pbmj.v4i2.147>

*Corresponding Author:

Maria Aslam
University Institute of Diet and Nutritional Sciences, UIDNS, The University of Lahore, Lahore, Pakistan.
maria.aslam@ahs.uol.edu.pk

ABSTRACT

Socialmedia is the site used everywhere around the world to interact and communicate with people. The most used social media networks include Facebook, WhatsApp, YouTube, Twitter, Instagram and Snapchat. Social networks usage is negatively associated with the eating choices of students, and it has made lifestyle sedentary **Objective:** The main aim of the study was to determine how the use of social media is linked with the eating habits of students. The secondary objective was to determine how peer choices affected eating choices in students **Methods:** A cross sectional study was conducted among 100 university of Lahore students for period of 3 months ranging from 18 to 25 years. Information on how social media and peer pressure influence eating behaviors in students was collected using a questionnaire through purposive sampling technique **Results:** The results revealed that the majority of participants were female i.e., 89% and 11% were male. About 43% participants were using Instagram, whereas about 70% participants were using cell phone before laying down. 39% participants were using internet for 10 hours while 30% participants for whole day. Majority 29% participant crave junk food while watching social media, and 74% participants consumed junk food with friends. Adolescents are influenced by peer pressure as 40% participants ate 3 meals and 24% participants ate 4 meals per day with friends **Conclusion:** Social media and peer pressure has greatly affected the lifestyle and eating choices of students. Our youth has decreased enjoying healthy meals with family. Thus, future nutrition programs must focus on promoting healthy eating behavior among our youth.

INTRODUCTION

A network that is designed and helps people to interact, communicate and use websites where they can share their videos, images, music and ideas with other people is termed as social media. There are different examples of social media that are famous among people such as Twitter, Facebook, Instagram, YouTube and Tiktok. These social networks are available anywhere and can be used anytime with the availability of internet or Wi-Fi on cell phones.[1] The best time for developing healthy eating habits is from 18 to 25 years of age but the problem arises and results in adults with bad eating habits as adults start using more social media during this time period. The use of social media becomes priority of students in this age group.[2] Most of the times students or youngsters find friends of their age

and they think that others are always having the same opinion for everything like their own but sometimes they have to face rejection and they feel depressed. They are highly influenced by their friend's circle.[3] Due to continuous usage of social media the health of adolescents is affecting day by day such as watching more television or using more cellphones is resulting in decreased physical activity and increasing the risk of bad sleep patterns and increased weight. Due to more usage of cellphones the duration of sleep is also observed to be decreased in this age group.[4] Prevalence of the most famous social networks among students is 95% own a smartphone, 51% use Facebook, 85% use YouTube, 72% use Instagram, 69% use Snapchat and they are mostly friends following each other

on these networks too. 1 Now days' using social media is becoming part of daily life. It has become difficult for university students to spend a single day without social media however students using social media can do multitasking on smartphones that means they are able to do more than one work on social media that is also beneficial for them.[5] The health of students is greatly affected as during this age they are already trying to cope up with different stressed conditions, trying to balance and manage studies and family relations so, these things become their priority and they focus less on maintaining good eating habits.[6] Sidani JE et al., in 2016 conduct a study about the association between social media use and eating concerns among young adults by using cross-sectional survey and reported a positive link between the social media usage and eating concerns.[7] Coates AE et al., in 2019 conduct a study on social media influencer marketing and children's food intake: a randomized trial and reported that the intake of unhealthy snacks and intake of kilocalories had increased in the children's who view influencers.[8] Tayhan KF and Yabancı AN conducted a study in 2020 on the relationship between eating disorders, internet and smart phone addiction in college students. The findings of research depict that 12.6% of students were at risk of eating disorders and number of female students had high ratio than the male students.[9] Vaterlaus JM et al., conducted a study in 2015 about the perceived influence of social media on health behavior of young adults. The results suggested that the 34 percent young adulthood exercise were affected by social media and it could both be a motivator and a barrier.[10] Stok FM et al., in 2016 conducted a study on the adolescents and young adults about potential of peer social norms to shape food intake. Results revealed that a norm encouraging fruit and vegetable intake.[11] Amaya-Hernandez A et al., in 2017 conducted a study in preadolescents and adolescents about peer influence: a predictor of disordered eating behaviors and body dissatisfaction. It was concluded that body dissatisfaction is same between preadolescents and adolescents and in both groups peer influence was an important predictive factor.[12] König LM et al., in 2017 conducted a study on the social image of food, associations between eating behaviors and popularity. Results showed that popular peers were look on to eat more healthy food than unpopular peers. It concluded that popularity of others shaped perceptions of the food they eat and make healthy eating possible through social influence.[13] Barberis N et al., in 2021 conducted study on the Healthy and binge eating behaviors, the motivational processes underlying peer pressure. The result revealed that peer pressure had influence on the dietary habits and overeating. Results further concluded that investigating contextual and

motivational factors played a major role in the precaution and interventions of dietary habits.[14] Al-sheyab N, Gharaibeh T, Kheirallah K in 2018 conducted research on the relationship between peer pressure and risk of eating disorders among adolescents in Jordan. The results showed that peer effect on eating habits in the adolescents had poor eating and normal eating habits was important. It concluded that health care professionals should motivate the healthy eating behaviors in the students.[15] Tadena S, Kang S, Kim J in 2020 conducted research on the Influence of social media affinity on eating attitudes and body dissatisfaction in Philippine adolescents. The results showed the factors that affecting eating habits were physique disapproval and social media devices, it concluded that educational programs should be designed to promote the healthy dietary habits in the Philippine adolescents.[16] Sarcona A et al., in 2017 conducted research on differences in eating behavior, physical activity, and health-related lifestyle choices between users and nonusers of mobile health apps. The results revealed that students who were using health apps were more diet conscious than students who had no apps usage.[17] Qutteina Y et al., in 2019 conducted study on relationship between social media use and disordered eating behavior among female university students in Qatar. According to cross sectional study results, it was proved that persistent social network utilization especially Instagram was related to elevated poor eating habits in the young women. Conclusion of the study, showed that social media had prominent part in the eating choices of female youth.[18] Karmila S, Aritonang E, Sudaryati E in 2019 conducted research on the relationship of the duration of social media Instagram usage and student's eating behavior in university of Sumatera Utara. The results demonstrated that Instagram usage duration was higher than 3 hours; there was a prominent relationship between Instagram usage duration and dietary habits.[19] Kabir A, Miah S, Islam A in 2018 conducted a qualitative study on factors influencing eating behavior and dietary intake among resident students in a public university in Bangladesh. Results showed that individual factors, social factors, environmental factors were the factors that influenced the dietary behavior and food intake of individuals.[20]

METHODS

A Cross sectional study design was opted to elucidate data from students of University of Lahore about how social media is adversely influencing the eating habits. Sample size of 100 was allocated for the study, data was collected through purposive sampling technique. Students ranging from 18-25 years of both gender males and females were participants of the study. Pregnant, lactating women and disabled persons were not included in the study.

RESULTS

In current study, data was collected from 100 participants. The results revealed that the majority of participants were female i.e., 89% and 11% were male of the total population. (Figure 1)

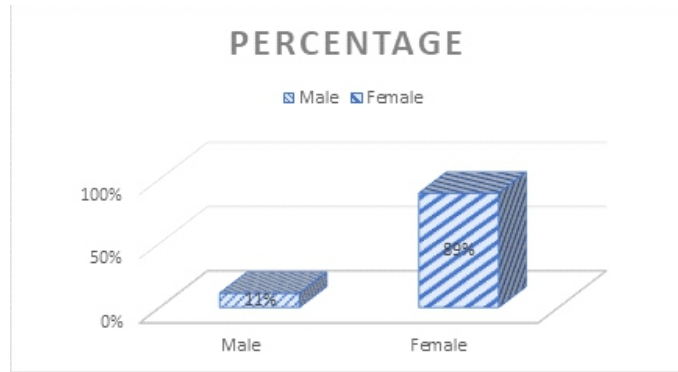


Figure 1: Gender of Participants

Minimum height of the participant in study was 4 feet 8 inches and maximum height was 6 feet. 36 kg was the minimum weight of the participant in the study and 89 kg was the maximum weight. The minimum age of the participant was 18 years and 26 years was the maximum age. 13 kg/m² square was the minimum BMI that was severely underweight and 34 kg/m² was the maximum BMI of the participant that was obese. The mean standard deviation for height of the participants was 5.428± 0.2555, the mean standard deviation for weight of the participants was 58.56± 11.071, the mean standard deviation for age was 21.97± 1.381 and the mean standard deviation for BMI was 22.0010 ± 4.21089. (Table 1)

Sr. no.	Parameters	Minimum	Maximum	Mean Std. deviation
1.	Height (inches)	4.8	6.0	5.428 ± 0.2555
2.	Weight (kg)	36	89	58.56± 11.071
3.	Age (years)	18	26	21.97± 1.381
4.	BMI	13	34	22.001± 4.21089

Table 1: Anthropometric Measurements of Participants
Different activities were reported among participants before going to bed. About 70% participants were using cell phone before lying down. Analysis showed that 39% of the participants were using internet for 10 hours a day. The results showed that participants used social network quite often and about 43% participants were using Instagram. (Table 2)

PROFOUND EFFECTS OF SOCIAL MEDIA	FREQUENCY	
Social Network Usage	Instagram	43
	Snapchat	11
	Twitter	1
	WhatsApp	29
	YouTube	16
Daily Social Media Usage	2 hours	4
	3 hours	27
	10 hours	39
	Whole day	30
Relaxing Activities Before Bed	Cellphone Usage	70
	Walking	14
	Reading	9
	Nothing	7

Table 2: Profound effect of social media on Adolescents

The results showed the association between the use of social media and food craving, 50% participants craved for junk food, 38% participants were watching fitness programs on social media. Majority 74% participants were impressed by other body physique and 33% compared their body physique with celebrities. According to results 67% participants watched recipes on social media and thought that they are healthy for them. (Table 3)

INFLUENCE OF SOCIAL MEDIA ON DAILY LIVES ACTIVITIES	FREQUENCY	
Food Craving	Junk food	50
	Baked products	16
	Sugary foods	8
	None	26
Appetite/Hunger Response	Forgot to eat	12
	Become Hungry	33
	Crave junk food	29
	Remain same	26
Impressed by Body Physique	Yes	74
	No	26
	Often	0
Compare their Body Physique with Celebrities	Yes	33
	No	55
	Often	12
Tempting Food Recipes	Yes	16
	No	17
	Often	67
Beverage Cocktails Recipes	Yes	18
	No	67
	Often	15
Fitness Related Programs	Yes	38
	No	33
	Often	29

Table 3: Influence of social media on Daily Lives Activities

The result showed that 74% participants preferred junk food with friends, 43% participant's friends eating choices had effect on their health, 20% participant's friends eating choices had no affect their health and 37% participants were those who thought that their eating choices were affected sometimes by their friends. 35% participants were trying food items after seeing them on social media and 37% participants did not try a food item after watching it on social media and 28% participants often tried food item after seeing it on social media. (Table 4)

INFLUENCE OF PEER PRESSURE		FREQUENCY
Food preference	Junk food	74
	Homemade food	18
	Baked foods	5
	Beverages/sugary foods	3
Food Order	Friend's Choice	61
	Own Choice	39
Trying New Food Item	Yes	35
	No	37
	Often	28
Meals eaten with friends	One	34
	Two	40
	Three	24
	Four or more	4
Eating choices	Yes	43
	No	20
	Often	37

Table 4: Influence of Peer Pressure on Eating Behavior of Adolescents

DISCUSSION

The current study was aimed to find the influence of social media and peer pressure on eating behaviors in students. The results revealed that the majority of participants were female i.e. 89% and 11% were male. However, study conducted in 2020 by Fatma Tayhan Kartal and Nurcan Yabancı Ayhan to see relationship between eating disorders, internet and smartphone addiction in college students showed that 321= (73%) were females and 116= (27%) were males out of 437 participants. [9] In current study about 43% participants were using Instagram, 29% were using WhatsApp, 16% were using YouTube, 11% were using Snapchat and only 1% was using twitter. Cross-sectional study that was conducted by Jaime E et al., in 2016 in order to find association between social media use and eating concerns among US young adults showed that 53% of adults from age 18-29 years used mostly Instagram and 49% of Instagram users used the site daily. There was significant positive overall link between the eating patterns, concerns

and social media usage ($P < 0.001$). Current study showed that 39% participants were using internet for 10 hours, 30% participants for whole day, 27% for 3 hours and 4% for 2 hours a day and 33% participants become hungrier while using social media, 29% participants craved junk food while watching social media, 26% participants remained same or in normal frequency and 12% participants forgot eating food while using social media. A study conducted by Fatma Tayhan Kartal and Nurcan Yabancı Ayhan in 2020 for detection of relationship between eating disorders, internet or smartphone addiction in college students showed similar results to the current study, 13% of students were having internet addiction and the prevalence of eating disorders in students with potential internet addiction was 36.4% ($p < 0.05$). [9] Current study stated that 74% participants consumed junk food with friends, 18% participants preferred homemade food, 5% baked food and 3% participants consumed beverages and sugary food with friends. Another study similar to current study was conducted by Nadia Barberis et al., on healthy, binge eating behaviors and the motivational processes underlying peer pressure in 2021. The main aim of the study was to see how peer pressure had influence on the dietary habits and overeating. Results showed that peer pressure changes our dietary patterns and had effect on overeating habits. Overall, peer pressure was directly related to binge eating. In current study it was seen that 74% participants were impressed by other body physique and round about 26% participant were not impressed by others body physique in the total population. The frequency of the participants who compared body physique with celebrities was 33%, 55% participant did not compare body physique with celebrities and 12% participants often watched celebrities on social media and compared their body physique with them. A study conducted by Shannen Tadena et al., in 2020 to find the Influence of social media affinity on eating attitudes and body dissatisfaction in Philippine adolescents showed that social media not only affected eating habits but also showed positive attitude towards physique disapproval ($p < 0.001$). [16]

CONCLUSION

Social media plays both positive and negative effects on health of adolescents. It is a fact that social media is very beneficial as it keeps us in contact with everyone all over the world and provides us with the latest information but everything has its drawbacks too and the most common drawback is that youth has decreased spending time and enjoying healthy meals with their families. They have moved on from these healthy eating habits and become reserved to their peer circle that is majorly influencing their health as they are more focused towards junk food. The health care

professionals should motivate the healthy eating behaviors in the students. Educational programs should be designed to promote healthy habits in the adolescents.

REFERENCES

- [1] Chung A, Vieira D, Donley T, Tan N, Jean-Louis G, Gouley KK, Seixas A. Adolescent Peer Influence on Eating Behaviors via Social Media: Scoping Review. *J. Med. Int. Res.* 2021 Jun 3;23(6):e19697. <https://doi.org/10.2196/preprints.19697>
- [2] Vaterlaus JM, Patten EV, Roche C, Young JA. # Gettinghealthy: The perceived influence of social media on young adult health behaviors. *Computers in Human Behavior.* 2015 Apr 1;45:151-7. <https://doi.org/10.1016/j.chb.2014.12.013>
- [3] Oyeboade JA. Socio-Economic Status, Peer Pressure And Use Of Social Media By Undergraduate Students In University Of Ibadan, Ibadan, Oyo State, Nigeria. *Library Philosophy & Practice.* 2017 Jan 1. https://www.researchgate.net/publication/317591233_Socio-economic_status_peer_pressure_and_use_of_social_media_by_undergraduate_students_in_University_of_Ibadan_Ibadan_Oyo_State_Nigeria
- [4] Domoff SE, Sutherland EQ, Yokum S, Gearhardt AN. Adolescents' addictive phone use: Associations with eating behaviors and adiposity. *Int. J. Env. Res. Pub. Hlth.* 2020 Jan;17(8):2861. <https://doi.org/10.3390/ijerph17082861>
- [5] Lau WW. Effects of social media usage and social media multitasking on the academic performance of university students. *Computers in human behavior.* 2017 Mar 1;68:286-91. <https://doi.org/10.1016/j.chb.2016.11.043>
- [6] Kosek B. The influence of Instagram on exercise and eating behavior. <https://www.semanticscholar.org/paper/The-influence-of-Instagram-on-exercise-and-eating-Kosek/745646e42e110de9c7cc44ac922d28ca5c15cddc>
- [7] Sidani JE, Shensa A, Hoffman B, Hanmer J, Primack BA. The association between social media use and eating concerns among US young adults. *J. Academy Nut. Diet.* 2016 Sep 1;116(9):1465-72. <https://doi.org/10.1016/j.jand.2016.03.021>
- [8] Coates AE, Hardman CA, Halford JC, Christiansen P, Boyland EJ. Social media influencer marketing and children's food intake: a randomized trial. *Pediatrics.* 2019 Apr 1;143(4). <https://doi.org/10.1542/peds.2018-2554>
- [9] Tayhan Kartal F, Yabancı Ayhan N. Relationship between eating disorders and internet and smartphone addiction in college students. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity.* 2021 Aug;26(6):1853-62. <https://doi.org/10.1007/s40519-020-01027-x>
- [10] Vaterlaus JM, Patten EV, Roche C, Young JA. # Gettinghealthy: The perceived influence of social media on young adult health behaviors. *Computers in Human Behavior.* 2015 Apr 1;45:151-7. <https://doi.org/10.1016/j.chb.2014.12.013>
- [11] Stok FM, De Vet E, de Ridder DT, de Wit JB. The potential of peer social norms to shape food intake in adolescents and young adults: a systematic review of effects and moderators. *Health psychology review.* 2016 Jul 2;10(3):326-40. <https://doi.org/10.1080/17437199.2016.1155161>
- [12] Amaya-Hernández A, Alvarez-Rayón G, Ortega-Luyando M, Mancilla-Díaz JM. Peer influence in preadolescents and adolescents: A predictor of body dissatisfaction and disordered eating behaviors. *Revista mexicana de trastornos alimentarios.* 2017 Jan 1;8(1):31-9. <https://doi.org/10.1016/j.rmta.2016.12.001>
- [13] König LM, Giese H, Stok FM, Renner B. The social image of food: Associations between popularity and eating behavior. *Appetite.* 2017 Jul 1;114:248-58. <https://doi.org/10.1016/j.appet.2017.03.039>
- [14] Barberis N, Gugliandolo MC, Costa S, Cannavò M. Healthy and binge eating behaviours: the motivational processes underlying peer pressure. *Psy, Hlth. & Med.* 2021 Apr 1:1-0. <https://doi.org/10.1080/13548506.2021.1903054>
- [15] Al-Sheyab NA, Gharaibeh T, Kheirallah K. Relationship between peer pressure and risk of eating disorders among adolescents in Jordan. *J. obesity.* 2018 Sep 19;2018. <https://doi.org/10.1155/2018/7309878>
- [16] Tadena S, Kang SR, Kim SJ. The influence of social media affinity on eating attitudes and body dissatisfaction in Philippine adolescents. *Child Health Nursing Res.* 2020;26(1):121-9. <https://doi.org/10.4094/chnr.2020.26.1.121>
- [17] Sarcona A, Kovacs L, Wright J, Williams C. Differences in eating behavior, physical activity, and health-related lifestyle choices between users and nonusers of mobile health apps. *American Journal of Health Education.* 2017 Sep 3;48(5):298-305. <https://doi.org/10.1080/19325037.2017.1335630>
- [18] Qutteina Y, Nasrallah C, Kimmel L, Khaled SM. Relationship between social media use and disordered eating behavior among female university

- students in Qatar. *J. Hlth Soc. Sci.* 2019;4(1):59-72.
https://journalhss.com/wp-content/uploads/jhss41_59-72.pdf
- [19] Karmila S, Aritonang EY, Sudaryati E. The Relationship of the Duration of Social Media Instagram Usage and Student's Eating Behavior in University of Sumatera Utara, 2019. *Britain International of Humanities and Soc. Sci. (BloHS) J.* 2020 Feb 29; 2(1): 289 - 95 .
<https://doi.org/10.33258/biohs.v2i1.190>
- [20] Kabir A, Miah S, Islam A. Factors influencing eating behavior and dietary intake among resident students in a public university in Bangladesh: A qualitative study. *PLoS one.* 2018 Jun 19;13(6):e0198801.
<https://doi.org/10.1371/journal.pone.0198801>