

Body Esteem as Mediator between Social Media Addiction and Eating Behaviors among Young Adults

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Abstract

Excessive use of social media and overindulgence of young adults on it has led to high risk eating behaviors. Viewing idealized body images of extremely thin and toned figures on social media increases body dissatisfaction, leading to eating disturbances. Body esteem is individual's perception and thoughts about his body, weight and appearance. That perception can either be positive or negative. Although, now a days, the number of young adults using social media is growing day by day, but little emphasis was given to issues of eating behaviors occurring in them. Therefore, the main aim of this study was to examine the impact of social media addiction on eating behaviors among young adults. In addition, mediating role of body esteem was also studied. A cross-sectional survey design was employed. A sample of 400 university students was collected through purposive sampling technique. Hierarchical regression analysis demonstrated that social media addiction was the most significant and strongest positive predictor of worse eating behaviors whereas body esteem (i.e., appearance, weight and attribution) was negative predictor of worse eating behaviors. Body esteem significantly mediated the relationship between social media addiction and worse eating behaviors. Understanding the role of social media addiction on eating behaviors would help researchers in creating awareness regarding the role of social media addiction and its impact on individual eating behaviors.

Keywords: Body Esteem, Eating Behaviors, Social Media Addiction, Young Adults

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Introduction

Social media addiction is behavioral activity in which an individual is excessively worried about their social media with the motivation of strong desire to sign in or use their social platforms and dedicating considerable time and energy to social platforms as a result of which it damages other domains of life (Hilliard et al., 2023). Social media addiction

is a type of addiction in which the individual devote a lot of time on platforms like Instagram, Facebook, twitter which make them stressful and interfere with their personal, social and occupational life. According to Blumler and Katz (1974), Uses and Gratification theory states that individual will actively seek any form of media in order to satisfy their needs. Each individual needs are different from others so people can use social media platforms for different purposes depending upon their needs.

Eating behavior is a comprehensive term that includes food choice and purposes, eating habits, dieting, and food concerning issues like obesity and eating disorders (LaCaille et al., 2013). The study conducted in Poland to look at the prevalence of dietary habits revealed that 90.7% had unhealthy eating habits (Kałucka et al., 2019). Rational Addiction theory reveals that any good or

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behavior becomes addictive when it is consumed over time and addiction often results in rapid increase i.e., binge eating or decrease in consumption i.e., withdrawal of eating (Becker & Murphy, 1988).

The association between interaction and engagement on social media and disordered eating patterns is serious dilemma for community health because it is greatly affecting the psychological and physical health of youth. A research synthesis of 19 articles revealed that association between unhealthy eating behaviors and social media usage is affected by time spent on social media, the type of content and photographs shared on it, sociocultural factors and also by gender (Padin et al., 2021). Study conducted on a sample of 185 undergraduate students indicate that, students getting negative comments or remarks on the content and status uploaded on Facebook are expected to engage in unhealthy eating behaviors (Hummel & Smith, 2014).

Body esteem is the aspect of self-image which is frequently related with weight, and includes the perspective, assessment, and sentiments an individual think about their physique (Williams et al., 2012). According to Frederick and colleagues (2012) in US approximately 20% to 40% of female are not satisfied with their body whereas 10% to 30% of men are not satisfied with their bodies (Frederick et al., 2012). 36.7% of young students of UAE are dissatisfied with their bodies (Alharballeh & Dodeen, 2023). Findings of the data collected from 24 countries revealed that 50% of women and more than 35% of men are not satisfied with their body image (Al Sabbah et al., 2009). Social comparison theory describes the motives, moreover the procedures, behind the notion that people assess their own thoughts, principles, accomplishments, and capabilities by comparison respectively with the thoughts, principles, accomplishments, and capabilities of others (Festinger, 1954).

Social comparison theory indicates that body dissatisfaction and unhealthy eating behaviors can emerge when women are repeatedly involved in comparison of their appearance with their friends, celebrities and influencers on social media (Heinberg & Thompson, 1992; Stormer & Thompson, 1996). Dual pathway model states that body dissatisfaction leads to pathological eating (Sehm & Warschburger, 2017). Internalizing thin ideal body and added pressure from media, family and friends lead to dissatisfaction with one's body. This led to unhealthy eating behavior in individual such as restricting their diet or calorie intake (Maraldo et al., 2016). Use of Social Networking Sites is linked to unhealthy diet habits and is also associated with increase in weight (Sampasa-Kanyinga et al., 2015). Summary of the review of literature of 67 studies which investigates the association between social media, body image and issues related to dietary practices revealed that content related to physical appearance on social media especially idealized body images is associated with body image and eating problems (Rodgers & Melioli, 2015). Physical appearance is significant area wherein people are likely to have perfectionistic tendencies. Ideal physical appearance has an ability to negatively influence individual body esteem through excessive use of social networking websites such as Instagram. A study conducted on 902 undergraduate's students of Philippines confirms the mediating role of perfectionism in physical appearance between body esteem and Instagram addiction (Simon et al., 2022). On Instagram, people, influencers, bloggers, actors and actresses upload their pictures and videos which are made with the help of filters and then they further carefully edited it due to which their pictures and videos shows that they have perfect body and when other people are constantly exposed to these kind of idealistic beauty standards than they

compare themselves with them which results in social anxiety and decrease their self-esteem (Simon et al., 2022). Promotion and advertisement of unrealistic thin body images on Pinterest and other social media platforms result in increased social comparison due to which people engage in dangerous weight loss activities especially in female (Lewallen & Behm-Morawitz, 2016). Different brands now a day use social media platforms to promote their businesses. Among different trends on social media “fitspiration” is one of the emerging trends. People exposure to fitspiration content on social media has result in health concerns such as body dissatisfaction, disordered eating pattern, negative body image, anxiety, depression and misuse of different drugs etc. among young adults (Cataldo et al., 2021).

Study conducted to find out the effect of increased exposure of ideal thin body on the self-evaluations of 162 female who are showing different levels of bulimic symptoms. The findings of the study shows that exposure to idealized thin body image is associated to lower self-assessment irrespective of the intensity of the bulimic symptoms. So, the findings indicate that social media have an influence on women’s self-assessment irrespective of their intensity of bulimic symptoms (Irving, 1990).

Rationale of the Study

Despite the fact that social media is considered as a stage that links people through the sharing and uploading of pictures, videos and other information but due to growing number of social media users and its excessive use have started giving attention to its damaging effects mainly on health (Simon et al., 2022). It was found that eating habits of Pakistani students are increasingly influenced by internet and social media usage and also by peer pressure (Aslam et al., 2021). About 2.8 million of adult die globally due to overweight and obesity but still little or no emphasis to

obesity is given by medical field in Pakistan (Saeed & Naji, 2022). Prior research studies found that body esteem and weight stigma have important role in causing the unhealthy eating habits in overweight adolescents of Pakistan (Munir & Dawood, 2020). In Pakistan few research studies were conducted to investigate the prevalence of social media addiction and eating behaviors but all these studies were conducted on adolescents. The present study is focused on young adults with their age ranging from 18 to 27. As individual shift from adolescence to young adulthood their eating habits become healthier. Some of the factors identified as causing these changes in eating habits are; individual factors (accounts for 67%) such as individual preference for taste, limited time and their perception about food, interpersonal factors such as social support from friends and family, environmental factors such as characteristics of the food and marketing of the food (Stok et al., 2018). Fear of negative assessment by others, vulnerability, rumination, and self-compassion are some of other factors which leads to thin idealization which causes body dissatisfaction in people due to which they engage in unhealthy eating behaviors (Maraldo et al., 2016). Thus, the goal of recent research was to study the impact of social media addiction on eating behaviors among young adults. Whether their eating behaviors become healthier or it becomes healthier as compared to adolescents.

Hypotheses

It was hypothesized that social media addiction will positively predict worse eating behaviors. Whereas, body esteem (i.e., appearance, weight and attribution) will negatively predict worse eating behaviors among young adults. Furthermore, it was hypothesized that Body esteem (i.e., appearance, weight and attribution) will mediate the link between social media

addiction and worse eating behaviors among young adults.

Method

Participants and Procedure

Permission was taken from the review board of the Foundation University School of Science and Technology before conducting the study. 400 young adults with equal number of men ($n=200$) and women ($n=200$) were approached in person from Rawalpindi and Islamabad. An informed consent was taken to ensure participants willingness. Appropriate instructions were given to the participants regarding goal of study before giving them questionnaire. Participants of the study were ensured that confidentiality of the collected information during research will be maintained and will only be used for research purpose. Through purposive sampling technique data was collected. The participants were asked to read the instructions carefully and mark the statement honestly.

Measures

Bergen Social Media Addiction Scale-Student Form (Sahin, 2018)

To assess social media addiction among young adults this scale was used. It is 5-point Likert scale and comprises of 29 items and has 4 sub dimensions. Its reliability for the entire scale was found to be .91 whereas reliability of its sub dimensions ranges from .81 to .86. The higher score on the scale indicate that the individual perceive himself as social media addict (Sahin, 2018).

Disordered Eating Attitude Scale (Alvarenga et al., 2010)

To assess eating behaviors among young adults this scale was used. It comprises of 25

items and has 5 subscales. Score in each item varies from 1 to 5. It has a reliability of .79. Higher scores on the scale indicate worse eating behaviors (Alvarenga et al., 2010).

Body Esteem Scale for Adolescent and Adults (Mendelson et al., 2001)

To assess body esteem among young adults this scale was used. It comprises of 23 items and has three subscales. It is a 5-point Likert scale and score in each item varies from 0 to 4. BE-Appearance subscale has 10 items with its Cronbach's alpha .92. Minimum score of appearance subscale is 0 and maximum score is 40. BE-Weight subscale has 8 items and with its Cronbach's alpha .81. Minimum score of weight subscale is 0 and maximum score is 32. BE-Attribution subscale has 5 items and with its Cronbach's alpha .94. Minimum score of attribution subscale is 0 and maximum score is 20 (Mendelson et al., 2001). In addition, demographic information including age, gender, height, weight, university and monthly income was also collected from participants.

Statistical Analysis

Statistical Package for Social Sciences (IBM-SPSS Version 23) and Process Macro was used to analyze data for main study by using reliability analysis, descriptive statistics, correlation, regression, mean differences, and mediation analyses.

Results

Table 1

Psychometrics Properties of the Study Variables (N=400)

Variables	<i>k</i>	<i>α</i>	<i>M</i>	<i>SD</i>	Range		Skew	Kurtosis
					Potential	Actual		
Social Media Addiction	29	.96	94.9	25.99	29-145	40-144	-.05	-.88
Eating Behaviors	37	.87	83.33	24.56	37-190	40-59	.60	.21
BES	23	.95	47.95	22.61	0-92	4-90	-.29	-.98
Appearance	10	.94	20.57	11.11	0-40	0-40	-.22	-1.01
Weight	8	.90	17.70	8.65	0-32	2-32	-.05	-1.27
Attribution	5	.85	9.68	4.95	0-20	0-20	-.16	-.83

Note. BES= Body Esteem Scale

Table 1 demonstrates descriptive of the study variables among young adults. Skewness and kurtosis indicate that the data follows a normal distribution and it is meeting the

assumption of parametric testing. Cronbach's alpha reliability estimates of the study variables ranged from .85 to .96 which falls in the acceptable range (Taber, 2017).

Table 2

Bivariate Correlation among Study Variables (N=400)

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. SMA	94.9	25.99	-	.85***	.92***	.94***	.81***	.49***	-	-	-
2. VT	16.70	4.47		-	.75***	.72***	.72***	.39***	.54***	.34***	.20***
3. VC	29.33	8.20			-	.87***	.76***	.46***	.49***	.37***	.27***
4. VP	28.44	10.53				-	.70***	.45***	.48***	.26***	.15***
5. VI	19.62	5.17					-	.47***	.52***	.31***	.19***
6. EB	83.33	24.56						-	.48***	.31***	.17***
7. BE-AP	20.57	11.11							.64***	.63***	.35***
8. BE-W	17.70	8.65							-	.77***	.69***
9. BE-AT	9.68	4.95								-	.72***

Note. *** $p < .001$

Table 2 demonstrates relationship among study variables. Results indicate that social media addiction has high significant positive relationship with worse eating behaviors, whereas, it has high significant negative relationship with body esteem (i.e.

appearance, weight and attribution). Body esteem of appearance has high significant positive relationship with body esteem of weight and attribution, whereas, it has high significant negative relationship with worse eating behaviors.

Table 3*Mean Differences in the Study Variables on the Basis of Gender among young Adults (N=400)*

Variables	Men (n=200)		Women (n=200)		t (df)	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
SMA	107.26	24.47	84.93	30.38	9.50(398)	.00	17.71	26.94	0.80
EB	92.43	18.15	80.22	28.38	5.12(338)	.00	7.52	16.89	0.51
BE									
Appearance	18.14	11.68	27.01	10.30	-8.69(398)	.00	-10.87	-6.85	0.80
Weight	15.75	8.52	19.63	8.37	-4.58(398)	.00	-5.53	-2.21	0.45
Attribution	8.85	5.50	10.51	4.19	-3.39(372)	.00	-2.62	-.69	0.33

Note. SMA= Social Media Addiction; BE= Body Esteem; EB= Eating Behaviors.

Table 3 reveals significant mean differences among study variables on the basis of gender. Men exhibit significantly greater levels of social media addiction and worse eating

behaviors than women. Women score higher on body esteem i.e., appearance, weight and attribution than men.

Table 4*Hierarchical Regression Showing Eating Behaviors Predicted by Sub Dimensions of Social Media Addiction among Young Adults (N=400)*

Variables	B	SE	β	95% CI		R ²	ΔR^2	F
				LL	UL			
Model 1						.00	.00	.18
Constant								
Age	.23	.40	.03	-.55	1.02			
Years of Education	-.19	1.37	-.00	-2.90	2.50			
Model 2						.29	.29	27.87***
Constant								
Virtual Tolerance	.07***	.38	.01***	.01	.70			
Virtual Communication	.37***	.29	.12***	-.20	.96			
Virtual Problem	.49***	.20	.21***	.09	.90			
Virtual Information	1.44***	.34	.30***	.77	2.11			

Note. ***p< .001

Table 4 reveals the impact of sub dimensions of social media addiction on eating behaviors among young adults. Hierarchical regression was conducted and results indicated that in model 2, sub dimensions of social media addiction significantly predict eating

behaviors. In the second model, the significant predictors of eating behaviors were virtual tolerance, virtual communication, virtual problem and virtual information.

Table 5

Hierarchical Regression Showing Eating Behaviors Predicted by Subscales of Body Esteem among Young Adults (N=400)

Variable	B	S.E	B	95% CI		R ²	ΔR^2	F
				LL	UL			
Model 1						.00	.00	.18
Constant								
Age	.23	.40	.03	-.55	1.02			
Years of Education	-.19	1.37	-.00	-2.90	2.50			
Model 2						.52	.52	87.02***
Constant								
Appearance	-1.19***	.13	-.53***	-1.49	-.93			
Weight	-1.40***	.17	-.49***	-1.74	-1.06			
Attribution	-1.91***	.26	-.38***	-2.43	-.39			

Note. *** $p < .001$

Table 5 reveals the impact of subscales of body esteem (i.e., appearance, weight and attribution) on eating behaviors among young adults. Hierarchical regression was conducted and results indicated that in model

2, subscales of body esteem (i.e., appearance, weight and attribution) significantly predict eating behaviors. In the second model, the significant predictors of eating behaviors were appearance, weight and attribution.

Table 6

Mediating Role of Body Esteem of Appearance between Social Media Addiction and Eating Behaviors among Young Adults (N=400)

Variable	Eating Behaviors											
	Total Effect				Direct Effect				Indirect Effect		95% CI	
	B	SE	t	p	B	SE	t	p	B	SE	LL	UL
Appearance	.46	.04	11.28	.00	.18	.04	4.4	.00	.27	.03	.21	.34

Note. *** $p < .001$

Table 6 reveals that the relationship between social media addiction and worse eating behaviors is mediated by body esteem of appearance. The mediating role was further supported by the Bootstrap Indirect Effect

values, which showed that '0' does not fall within the Confidence Interval. The value of Sobel test is also significant i.e., $Z = 11.42$, $p < .001$.

Table 7

Mediating Role of Body Esteem of Weight between Social Media Addiction and Eating Behaviors among Young Adults (N=400)

Variable	Eating Behaviors											
	Total Effect				Direct Effect				Indirect Effect		95% CI	
	B	SE	t	p	B	SE	t	p	B	SE	LL	UL
Weight	.46	.04	11.28	.00	.29	.03	8.21	.00	.16	.02	.12	.22

Note. *** $p < .001$

Table 7 reveals that the relationship between social media addiction and worse eating behaviors is mediated by body esteem of weight. The mediating role was further supported by the Bootstrap Indirect Effect

values, which showed that '0' does not fall within the Confidence Interval. The value of Sobel test is also significant i.e., $Z = 6.70$, $p < .001$.

Table 8

Mediating Role of Body Esteem of Attribution between Social Media Addiction and Eating Behaviors among Young Adults (N=400)

Variable	Eating Behaviors											
	Total Effect				Direct Effect				Indirect Effect		95% CI	
	B	SE	t	p	B	SE	t	p	B	SE	LL	UL
Attribution	.46	.04	11.28	.00	.41	.04	10.25	.00	.05	.01	.02	.07

Note. *** $p < .001$

Table 8 reveals that the relationship between social media addiction and worse eating behaviors is mediated by body esteem of attribution. The mediating role was further supported by the Bootstrap Indirect Effect

values, which showed that '0' does not fall within the Confidence Interval. The value of Sobel test is also significant i.e., $Z = 4.09$, $p < .001$.

Discussion

Sharing and uploading of content on social media platforms make individual vulnerable to social comparison because they compare themselves with people who they think are in good state or in bad state than them (Gilbert, 2001). Unhealthy eating habits are quickly rising. These unhealthy eating habits arise from interconnection of different factors and one of the most important factors is the impractical beauty norms which are promoted through social media (Aparicio-Martinez et al., 2019). Thus, this research was conducted to examine the repercussions of social media addiction on eating behaviors among young adults. In addition, mediating

role of body esteem was also studied along with variation in study variables by gender. Bivariate analysis uncovered a significant positive relationship between social media addiction and worse eating behaviors, whereas, it has significant negative relationship with body esteem (i.e., appearance, weight and attribution). Body esteem (i.e., appearance, weight and attribution) has significant negative relationship with worse eating behaviors. The findings of the current study were also supported by previous literature where it was found that relationship between unhealthy eating behaviors and social media usage is affected by time spent on social media

(Aparicio-Martinez et al., 2019; Padín et al., 2021; Sampasa-Kanyinga et al., 2015). Prior research studies also reported that physical appearance is significant area wherein people are likely to have perfectionistic tendencies. Ideal physical appearance has an ability to negatively influence individual body esteem through excessive use of social media platforms (Simon et al., 2022).

Furthermore, hierarchical regression revealed that sub dimensions of social media addiction and subscales of body esteem (i.e., appearance, weight and attribution) significantly predict eating behaviors. Previous literature also provides empirical evidence for the findings of hierarchical regression, as it was found that social media use played a notable role in predicting smaller meal portions, the substitution of foods, and meal skipping (Harris, 2020). Moreover, it was found that body esteem (i.e., appearance, weight and attribution) was significantly mediating the relationship between social media addiction and worse eating behaviors. The literature available also supports these findings as dual pathway model states that body dissatisfaction leads to pathological eating (Sehm & Warschburger, 2017).

In addition, mean differences across gender showed that men scored significantly higher on social media addiction and exhibited worse eating behaviors than women. Whereas, women scored higher on body esteem i.e., appearance, weight and attribution. These findings were also supported by prior research studies as assessments of literature reveal that gender difference exist in eating behaviors (Rolls et al., 1991).

Limitations and Recommendations

There were also some important limitations of the current study. Although cross-sectional study design suited the current study however longitudinal studies should be conducted in future to explore the phenomenon of the

current study in depth. The current study was conducted with a limited sample size ($N=400$) and also the study was cross-sectional as a result of which the collected data cannot be cross checked and due to limited sample size, the findings of the study cannot be generalized on the overall population of the country. Therefore, in future study should be conducted with large sample size. The current study was conducted on young adults so future studies should be conducted on different age groups. The study sample included participants who have attained 14 years of education and the questionnaire was administered in English. So, in future the current study should be conducted on uneducated people who can understand languages other than English.

Implications

Despite some of the limitations, the current study also has important implications. The results of the current study reveal that young adults' overindulgence on social media has negative impact on their body esteem and results in unhealthy eating behaviors. Therefore, awareness should be created in general population regarding the adverse effect of social media addiction. To overcome body esteem concerns, promotion of idealistic beauty standards should be discouraged by social media influencers, actors, bloggers etc. The current study will help mental health professionals and practitioner to understand the impact of social media addiction on worse eating behaviors among young adults in Pakistani context. The current research would provide a foundation for future studies by explaining that both social media addiction and body esteem (i.e., appearance, weight and attribution) is predictor of worse eating behaviors.

Conclusion

In conclusion, social media addiction was strongest and significant positive predictor of worse eating behaviors and body esteem was

negative predictor of worse eating behaviors. Body esteem played a significant mediating role in the connection between social media addiction and detrimental eating behaviors. Findings will help researcher in creating awareness regarding the mediating role of body esteem between social media addiction and eating behaviors.

Contribution of Authors

Hajira Khan: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft
Sadaq Ahsan: Methodology, Writing - Reviewing & Editing, Supervision
Roma Shafique: Methodology, Formal Analysis, Writing - Reviewing & Editing

Conflict of Interest

There is no conflict of interest declared by the authors.

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The authors declared no source of funding.

Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [H.K.] upon the reasonable request.

Ethical Standards and Informed Consent

Permission was taken from Ethical Review Board of Foundation University, Islamabad. All the procedures were taken according to their ethical standards. Informed consent was taken from all the students for the participation in this research.

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