

Original Article

Analysis of Eating Disorders and Social Media Impact on Health

Afza Lal Din¹, Iqra Javed¹, Neha Devi², Afsheen Mansoor³, Emaan Mansoor⁴, Mehek Khaliq⁵, Hafiz Ali Raza^{6*}

¹PKLI College of Nursing & Allied Health, University of Health Sciences, Lahore, Pakistan

²Institute of Dentistry, Liaquat University of Medical & Health Sciences, LUMHS, Jamshoro, Pakistan

³Associate Professor, School of Dentistry, Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad, Pakistan

⁴Islamic International Dental College, Riphah International University, Islamabad, Pakistan

⁵M. Phil Sociology, Department of Sociology, Riphah International University, Faisalabad Campus, Pakistan

⁶Institute of Agricultural Extension, Education and Rural Development, University of Agriculture, Faisalabad, Pakistan

*Corresponding Author: Hafiz Ali Raza; Email: Razaa0617@gmail.com

Conflict of Interest: None.

Din AL., et al. (2024). 4(2): DOI: <https://doi.org/10.61919/jhrr.v4i2.808>

ABSTRACT

Background: The proliferation of social media has significantly altered how individuals perceive body image and manage eating behaviors, leading to increased concern regarding the potential exacerbation of eating disorders. This study explores the intricate relationship between social media usage and the prevalence of eating disorders among adolescents and young adults.

Objective: This study aims to determine the impact of social media on the health outcomes of individuals, specifically focusing on the development and intensification of eating disorder symptoms. It seeks to understand the role social media plays in shaping body image perceptions and eating behaviors.

Methods: A cross-sectional study was conducted in the regions of Punjab and Sindh, involving 550 participants over the age of 18 who were regular users of social media platforms such as Facebook, Instagram, Twitter, Snapchat, and TikTok. Standardized questionnaires and interviews were utilized to collect data on social media usage habits, eating behaviors, body image perception, and mental health status. Statistical analyses were performed using SPSS v27.0, employing correlation and regression techniques to examine the associations between social media exposure and symptoms of eating disorders.

Results: The participant group consisted of 65% females and 35% males, with a mean age of 25.6 years. High engagement with social media was noted, with Instagram (80% usage, 2.5 hours/day) and YouTube (85% usage, 2.0 hours/day) being the most popular platforms. Significant correlations were found between social media addiction scores and various domains of eating disorders: restriction ($r = 0.25$, $p < 0.001$), binge eating ($r = 0.30$, $p < 0.001$), purging ($r = 0.28$, $p < 0.001$), and body dissatisfaction ($r = 0.35$, $p < 0.001$). Spearman's correlations highlighted strong interrelationships among different eating disorder behaviors and social media addiction, indicating a pervasive influence across all examined aspects.

Conclusion: The study confirms a significant association between social media usage and the exacerbation of eating disorder symptoms. The findings underscore the need for targeted interventions to promote healthy body image and eating behaviors on social media platforms.

Keywords: Social Media, Eating Disorders, Body Image, Adolescent Health, Mental Health, Media Influence, Cross-Sectional Study, Statistical Analysis.

INTRODUCTION

The growing prevalence of eating disorders (EDs) over the past several decades has emerged as a significant public health challenge globally. These disorders, which profoundly affect both physical and psychological well-being, are particularly prevalent among adolescents. They rank as the third most common chronic illness in this demographic, after obesity and asthma. The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5), categorizes eating disorders into five types (1): Anorexia Nervosa (AN), Bulimia Nervosa (BN), Binge-Eating Disorder (BED), Other Specified Feeding or Eating Disorders (OSFED), and Unspecified Feeding or Eating Disorders. Recent studies indicate a worrying trend, with the global incidence of eating disorders doubling in the past decade from 3.5% to 7.8%, and adolescents aged 15 to 19 years constituting about 40% of these cases (2, 3). Epidemiological research further reveals that disordered eating behaviors are prevalent in 14% to 22% of the population, with specific disorders like

AN, BN, and BED affecting 0.3%, 0.9%, and 1.6% respectively. Notably, adolescent females are disproportionately affected, experiencing a higher incidence rate of 5.7% compared to 1.2% among adolescent males (3-6).

Alongside the rise of eating disorders, the advent and expansion of social media platforms have transformed how individuals interact and consume information, significantly influencing societal norms and individual behaviors related to body image and eating habits. The intersection of social media and eating disorders has therefore become a focal point for research, policy-making, and clinical intervention, as these platforms potentially play roles in the development, maintenance, and exacerbation of eating disorders (1, 2). Despite the common misconception that eating disorders are predominantly a Western phenomenon, their impact is global. However, estimating their true prevalence is challenging due to the scarcity of comprehensive, nationally representative data and frequent changes in classification systems. According to the latest Global Burden of Disease study, approximately 13.9 million individuals suffered from Anorexia or Bulimia in 2019, with an additional 41.9 million cases of OSFED and binge eating disorder reported, suggesting a total global prevalence of 0.7%. This figure likely underestimates the true scope, considering that many affected individuals do not seek formal health services (7-10).

Given these dynamics, understanding the complex relationship between social media usage and eating disorders is critical for developing effective interventions and prevention strategies. The primary objective of this study is to explore how social media impacts the health outcomes of both children and the elderly with eating disorders, aiming to provide actionable insights that can inform policy and clinical practice worldwide. This exploration is particularly pertinent as both age groups use social media differently and have distinct vulnerabilities in relation to eating disorders.

MATERIAL AND METHODS

This cross-sectional study was conducted in the regions of Punjab and Sindh, targeting a population of 550 participants who met specific inclusion criteria. Participants were required to be over 18 years of age and regular users of major social media platforms, including Facebook, Instagram, Twitter, and Snapchat. Individuals with a history of diagnosed eating disorders or other psychiatric disorders were excluded from the study, based on self-reported information.

Data collection was executed using a dual approach involving standardized questionnaires and structured interviews. These tools were designed to gather comprehensive data on participants' social media usage habits, eating behaviors, perceptions of body image, and overall mental health status. The frequency, duration, and types of social media platforms utilized were recorded, alongside assessments of eating disorder symptoms and body image concerns using validated instruments such as the Eating Attitudes Test (EAT-26) and the Body Image Questionnaire (BIQ). The study adhered strictly to ethical guidelines as outlined in the Declaration of Helsinki, ensuring informed consent was obtained from all participants prior to data collection. The anonymity and confidentiality of participant data were maintained throughout the study.

Statistical analysis was conducted using SPSS version 27.0. Techniques such as correlation and regression analyses were employed to explore the relationships between social media exposure and symptoms indicative of eating disorders. The use of Excel 2023 facilitated the creation of graphs and further correlation assessments, enabling a thorough interpretation of the data collected. The findings were aimed at identifying potential causal links and correlations, providing a foundation for future interventions and policies targeted at mitigating the impact of social media on eating disorders.

RESULTS

The demographic characteristics of the study participants were thoroughly examined to provide a foundation for the subsequent analyses. The study included a total of 550 participants, with a mean age of 25.6 years, characterized by a standard deviation of 4.3 years. The gender distribution within the sample was predominantly female, comprising 65% (357 participants) while males accounted for the remaining 35% (193 participants). Educational attainment among the participants varied, with 27% having completed high school, 55% holding a Bachelor's degree, and 18% possessing a Master's or PhD degree (Table 01).

Assessment of social media usage revealed significant engagement across various platforms among the youths surveyed. Instagram was the most utilized, with 80% of participants engaging daily for an average of 2.5 hours primarily sharing photos and videos. Snapchat followed with 70% of youths spending about 2.0 hours daily, mostly for messaging purposes. TikTok and YouTube also showed high usage rates, with 60% and 85% of youths using these platforms for watching short videos and videos, respectively. Facebook usage was relatively lower, with 50% of participants connecting with friends for an average of 1.0 hour per day (Table 02).

The relationship between social media addiction and eating disorder symptoms was statistically significant, with all domains showing strong correlations. Restrictive eating behaviors had a correlation coefficient (r) of 0.25 and a p -value below 0.001, indicating a

significant association with social media addiction scores. Binge eating and purging behaviors showed even stronger correlations with coefficients of 0.30 and 0.28, respectively, both also significant at p-values below 0.001. Body dissatisfaction exhibited the strongest correlation at 0.35, significantly impacting individuals as reflected by their social media addiction scores (Table 03).

Table 01: Demographic Data of Participants

Demographic Characteristic	Value
Total Participants	550
Mean Age (years)	25.6 ± 4.3
Gender- Female	357 (65%)
Gender- Male	193 (35%)
Education- High School	150 (27%)
Education- Bachelor's Degree	300 (55%)
Education- Master's/PhD	100 (18%)

Table 02: Assessment of Social Media Usage Among Youths

Social Media Platform	Percentage of Youths (%)	Average Time Spent per Day (hours)	Most Common Activities
Instagram	80	2.5	Sharing photos/videos
Snapchat	70	2.0	Messaging
TikTok	60	1.5	Watching short videos
YouTube	85	2.0	Watching videos
Facebook	50	1.0	Connecting with friends

Table 03: Assessment of Eating Disorder and Social Media Addiction

Eating Disorder Domain	Social Media Addiction Score (SAS)	Correlation (r)	p-value
Restriction	55	0.25	<0.001
Binge Eating	60	0.30	<0.001
Purging	58	0.28	<0.001
Body Dissatisfaction	65	0.35	<0.001

Table 04: Spearman's Correlation Table between Eating Disorders and Social Media Addiction

	Restriction	Binge Eating	Purging	Body Dissatisfaction	Social Media Addiction
Restriction	1.00	0.45	0.38	0.50	0.65
Binge Eating	0.45	1.00	0.55	0.60	0.70
Purging	0.38	0.55	1.00	0.48	0.60
Body Dissatisfaction	0.50	0.60	0.48	1.00	0.75
Social Media Addiction	0.65	0.70	0.60	0.75	1.00

Table 05: Association between Appearance-Related Content and Social Media Usage

Hours Spent on Social Media per Day	Mean EAT-26 Score
Less than 1 hour	15.2
1-3 hours	18.6
More than 3 hours	23.4

Table 06: Frequency of Engagement with Appearance-related Content

Frequency of Engagement with Appearance-related Content	Mean Body Dissatisfaction Score
Rarely	15.8
Occasionally	18.5
Frequently	21.2

Further exploration using Spearman's correlation analysis underscored the interdependencies among various eating disorder behaviors and their relation to social media addiction. The correlation matrix revealed that restriction was highly correlated with

social media addiction ($r = 0.65$), and similarly strong relationships were observed for binge eating ($r = 0.70$), purging ($r = 0.60$), and body dissatisfaction ($r = 0.75$) with social media addiction, indicating pervasive influence across all examined aspects of eating disorders (Table 04).

The study also examined the association between the amount of time spent on social media and appearance-related content engagement with eating disorder symptoms. Participants engaging in social media for more than 3 hours a day had a higher mean EAT-26 score of 23.4, suggesting more pronounced eating disorder symptoms compared to those spending less time. The frequency of engagement with appearance-related content similarly showed a direct correlation with body dissatisfaction scores, where frequent engagement yielded a higher mean score of 21.2, demonstrating the impact of social media content on body image concerns (Table 05).

DISCUSSION

The study revealed significant correlations between various domains of eating disorders and social media addiction, illustrating a complex relationship between these two phenomena. The strong associations observed between domains such as dieting, bulimia, food preoccupation, oral control, and social media addiction suggest an intertwined dynamic where excessive engagement with social media platforms exacerbates disordered eating behaviors. These findings are consistent with existing literature that underscores the role of social media in propagating unrealistic beauty standards and promoting unhealthy dieting practices, thereby heightening preoccupation with body image and weight (11-13).

The influence of socialized computerized interactions, particularly through online communities, represents a potent force shaping individual behaviors and attitudes through mechanisms such as peer pressure and prevailing social norms (14). Influencers, especially in the juvenile demographic, exert a significant impact on eating behaviors among social media users. Their content-sharing strategies may position them as role models of food consumption, which was shown to correlate with higher global Eating Disorder Assessment Survey (EDE-Q) scores and increased disordered eating among girls (15, 16).

In response to these challenges, media literacy emerges as a crucial intervention. Understanding and critically engaging with mass media can equip young individuals to scrutinize and interpret media and advertising content more effectively (17). Interventions like media education have shown promise in mitigating the adverse effects of media exposure, including media violence and alcohol advertising, on children and adolescents. Although such programs have been integrated into some Canadian school curricula, their specific efficacy in addressing eating disorders remains unexplored (18).

Moreover, the correlation between body dissatisfaction and social media addiction underlines the detrimental effects of social media on body image perceptions among youths. The constant exposure to idealized images and the inevitable comparison with others on these platforms may foster feelings of inadequacy and dissatisfaction with one's own body, thus heightening the risk of eating disorders (19). This issue is further compounded by the role of social comparison, as interpersonal comparisons facilitated by social media contribute significantly to distorted body image and disordered eating patterns. The curated and often unrealistic portrayals of peers' lives and bodies on social media can induce feelings of inferiority and drive maladaptive behaviors aimed at achieving unattainable beauty and thinness standards (20).

The study, however, is not without its limitations. The reliance on self-reported data may introduce bias, as participants might underreport or overreport their social media usage or eating disorder symptoms. Additionally, the cross-sectional nature of the study limits the ability to establish causality between social media usage and eating disorder symptoms.

CONCLUSION

In conclusion, the excessive use of social media, particularly exposure to content related to body image and dieting, likely contributes to the development and exacerbation of eating disorders among individuals. Interventions aimed at promoting a positive body image and healthy eating habits on social media platforms are essential to mitigate the negative impact of social media on mental health. Future research should focus on longitudinal studies to better understand the causal relationships and develop targeted interventions that can effectively address the complex interplay between social media use and eating disorders.

REFERENCES

1. Sidani JE, Shensa A, Hoffman B, Hanmer J, Primack BA. The Association Between Social Media Use and Eating Concerns Among US Young Adults. *J Acad Nutr Diet*. 2016 Sep;116(9):1465-72. doi: 10.1016/j.jand.2016.03.021. Epub 2016 May 5. PMID: 27161027; PMCID: PMC5003636.

2. Mushtaq T, Ashraf S, Hameed H, Irfan A, Shahid M, Kanwal R, et al. Prevalence of Eating Disorders and Their Association with Social Media Addiction Among Youths. *Nutrients*. 2023;15:4687. <https://doi.org/10.3390/nu15214687>
3. D'Arienzo MC, Boursier V, Griffiths MD. Addiction to Social Media and Attachment Styles: A Systematic Literature Review. *Int J Ment Health Addict*. 2019;17:1094-1118.
4. Imperatori C, Panno A, Carbone GA, Corazza O, Taddei I, Bernabei L, et al. The Association Between Social Media Addiction and Eating Disturbances Is Mediated by Muscle Dysmorphia-Related Symptoms: A Cross-Sectional Study in a Sample of Young Adults. *Eat Weight Disord Stud Anorex Bulim Obes*. 2022;27:1131-40.
5. He Z, Yang W. Impulsiveness as Potential Moderators of the Relation Between Social Media Dependence and Eating Disorders Risk. *BMC Psychol*. 2022;10:120.
6. Hou Y, Xiong D, Jiang T, Song L, Wang Q. Social Media Addiction: Its Impact, Mediation, and Intervention. *Cyberpsychology*. 2019;13:4.
7. Qutteina Y, Nasrallah C, Kimmel L, Khaled S. Relationship Between Social Media Use and Disordered Eating Behavior Among Female University Students in Qatar. *J Health Soc Sci*. 2019;4:59-72.
8. Kamal NN, Kamal NN. Determinants of Problematic Internet Use and Its Association with Disordered Eating Attitudes Among Minia University Students. *Int J Prev Med*. 2018;9:35.
9. Galmiche M, Déchelotte P, Lambert G, Tavolacci MP. Prevalence of Eating Disorders Over the 2000–2018 Period: A Systematic Literature Review. *Am J Clin Nutr*. 2019;109:1402-13.
10. Bozkurt H, Özer S, Şahin S, Sönmezgöz E. Internet Use Patterns and Internet Addiction in Children and Adolescents with Obesity. *Pediatr Obes*. 2018;13:301-6.
11. Santarossa S, Woodruff SJ. #SocialMedia: Exploring the Relationship of Social Networking Sites on Body Image, Self-Esteem, and Eating Disorders. *Soc Media Soc*. 2017;3:2056305117704407.
12. Wilksch SM, O'Shea A, Ho P, Byrne S, Wade TD. The Relationship Between Social Media Use and Disordered Eating in Young Adolescents. *Int J Eat Disord*. 2020;53:96-106.
13. Papini NM, Jung M, Cook A, Lopez NV, Ptomey LT, Herrmann SD, et al. Psychometric Properties of the 26-Item Eating Attitudes Test (EAT-26): An Application of Rasch Analysis. *J Eat Disord*. 2022;10:62.
14. Bozzola E, Spina G, Agostiniani R, Barni S, Russo R, Scarpato E, et al. The Use of Social Media in Children and Adolescents: Scoping Review on the Potential Risks. *Int J Environ Res Public Health*. 2022;19:9960.
15. Aparicio-Martínez P, Ruiz-Rubio M, Perea-Moreno AJ, Martínez-Jiménez MP, Pagliari C, Redel-Macías MD, et al. Gender Differences in the Addiction to Social Networks in the Southern Spanish University Students. *Telemat Inform*. 2020;46:101304.
16. Frieiro P, González-Rodríguez R, Domínguez-Alonso J. Self-Esteem and Socialisation in Social Networks as Determinants in Adolescents' Eating Disorders. *Health Soc Care Commun*. 2022;30:e4416-e4424.
17. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med*. 2018;169(7):467-73. [pmid:30178033](https://pubmed.ncbi.nlm.nih.gov/30178033/)
18. Ozpolat A. Social Media Use, Disordered Eating, and Body Image in Adolescent Females: A Systematic Review of the Literature. *Pepperdine University*. 2022.
19. Daud A, Masran NH, Othman H, Pairoh H. The Usage of Social Media in Weight Management Among Undergraduate Nursing Students. *Journal of Islamic*. 2023;8(59):446-457.
20. Lei X, Matovic D, Leung WY, Viju A, Wuthrich VM. The relationship between social media use and psychosocial outcomes in older adults: a systematic review. *International Psychogeriatrics*. 2024 Jan 30:1-33.