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DISORDERED EATING AND REPRODUCTIVE HEALTH IN ADOLESCENTS: THE ROLE OF SOCIAL MEDIA-INDUCED BEHAVIORAL TRANSFORMATION ON SELF-ESTEEM AND POLITICAL ADVOCACY IN PROMOTING YOUTH HEALTH EQUITY.

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ABSTRACT

Disordered eating behaviors are becoming increasingly common among teenagers, and if not addressed, they can become chronic. Even non-clinical teenage populations have common disruptions such as body dissatisfaction, erroneously eating, and self-induced vomiting, which have a substantial impact on their mental health and may influence their reproductive health. This study intends to investigate the influence of social media and self-esteem on disordered eating practices and reproductive health among Pakistan's university students. A total of 200 undergraduate and graduate students filled out a questionnaire that included the Eating Attitudes Test (EAT), the Sociocultural Attitudes Towards Appearance Scale-3 (SATAQ-3), and the Rosenberg Self-Esteem Scale. The participants were separated into two age groups: under 21 (57.0%) and over 21 (43.0%). For comparison study, the sample was divided into two categories: educational level and gender. Inter-variable correlations indicated that self-esteem was adversely related to both SATAQ-3 and EAT scores, suggesting that lower self-esteem is associated with more disordered eating habits and unfavorable sociocultural views. The regression analysis revealed that sociocultural views positively predicted disordered eating behaviors ($\beta = .25$; $t = 3.3$; $p < .01$), whereas self-esteem was a significant negative predictor ($\beta = -0.18$; $t = 4.1$; $p < .05$), accounting for 4.0% of the model's variance. Furthermore, the findings suggest that disordered eating behaviors may have a negative influence on menstrual health, since body dissatisfaction and bad dieting practices disrupt normal menstrual cycles and hormonal balance. These findings highlight the critical need for targeted interventions through Social and Behavioral Change Communication (SBCC), such as educational campaigns promoting body positivity, social media literacy programs to combat unrealistic beauty standards, and community-based initiatives involving parents, educators, and healthcare providers. Furthermore, incorporating SBCC approaches into mental and reproductive health services, as well as lobbying for regulatory reforms to restrict harmful social media material, can help reduce the impact of disordered eating on adolescent mental and reproductive health.

Keywords: disordered eating, social media, self-esteem, adolescent reproductive health

INTRODUCTION

Eating is not an automatic process, like breathing, but rather it is determined to a large extent by the cultural, social, and psychological pressures. Therefore, eating behavior, as with other health behaviors, is not just the result of our intention. Eating behavior is the result of complex interaction of personal, social, and environmental factors [1]. Eating not only effect on physical well beings but also effect on overall psychological wellbeing [2]. Healthy eating helps to reduce mental illness, boost energy level, sharpen brain, improve self-esteem, brighten mood, reduced anxiety, irritability, and improve sleep [3].

The prevalence of eating problem in adolescent increases day by day and become chronic when untreated. Many disturbed eating patterns such as, body dissatisfaction, inappropriate dieting and self-induced vomiting are common in non-clinical population of adolescents [4]. It is evident from literature that if these unhealthy eating problems remain untreated then they may transform in severe disordered eating patterns and ultimately changed in full blown eating disorders [5].

Adolescents in Pakistan, like their counterparts around the world, are increasingly exposed to social media platforms that promote idealized body standards and beauty norms, which frequently leads to social comparison and body dissatisfaction. Concerns have been raised about social media's impact on mental and physical health, particularly in relation to body image, disordered eating behaviors, self-esteem, and reproductive wellness.

The major goal of this research is to investigate the effect of social media on disordered eating habits, self-esteem, and reproductive health concerns among Pakistani teenagers. Existing research highlights the importance of social media in influencing body dissatisfaction and fostering unhealthy eating patterns, with implications for both mental and physical health. However, few research has addressed these challenges in the context of Pakistani teenagers, where local norms mix with global beauty ideals popular on social media platforms [1,3].

By addressing this research vacuum, the study sheds light on the underlying causes of disordered eating and low self-esteem in Pakistan, as well as how exposure to idealized body images online affects reproductive health. For example, social media-driven disordered eating behaviors can lead to nutritional deficiencies that negatively influence menstrual health and hormonal balance in females, highlighting reproductive health as a concern in this demographic [12].

This research aims to address this critical issue by investigating how social media exposure impacts disordered eating, self-esteem, and reproductive health concerns among Pakistani teens, as well as gender differences in these effects. With little research on Pakistani teenagers, this study intends to fill a gap in the literature by offering culturally relevant insights that might guide future interventions for greater social media participation and mental health help in Pakistan [6,1].

Furthermore, the study looks at how gender disparities in social media exposure affect disordered eating, self-esteem, and reproductive health. While previous research has shown that adolescent females are more vulnerable to the impact of social media on

body image and eating behaviors, this study aims to determine whether similar patterns exist in Pakistan and whether males face reproductive health risks associated with disordered eating, such as hormonal imbalances caused by poor nutrition. The findings could provide a basis for gender-sensitive health interventions, emphasizing the need to address the specific physical and mental health risks posed by social media-driven behaviors within the unique cultural landscape of Pakistani adolescents. Disordered eating behavior are prevalent across world in all countries [6]. This is characterized by disturbed eating patterns, such as purging, bingeing, and restrictive dieting [7]. Disordered eating is basically disturbed eating patterns accompanied with unsteady and unbalanced diet plan. It can be manifested by over and under eating [8]. However, the prevalence of disordered eating is varying across culture, age, and gender [9]. Moreover, adolescents are more prone to have eating problems because adolescent is a crucial stage in human development manifested by various storm and stress [10]. Furthermore, a variety of researches conducted in the recent decade on eating problems concluded late adolescents are the most critical period of developing disordered eating patterns [11]. In this critical phase, people are more concerned about their foods and have acquired more control over what they eat [12]. In the same extent, individual of this age is preoccupied about their weight [13], body image and became anxious about their standard of thinness [14]. In addition, prevalence of disordered eating is high in young girls when they faced difficulty to reorganization and explanation of their emotions as compared to boys [15].

The etiology of disorders eating is multifactorial, i.e., numerous psychological and social factors significantly predicating the development and onset and of disorders eating. Negative media exposure and low self-esteem are two main predisposing factors strongly affecting eating patterns of adolescents [16].

Many of media source such as Internet, Facebook, television, magazines and movies altogether portrayed an unhealthy, unrealistic and unattainable standard of beauty [17]. Social media is one of imperative precipitating and predisposing factor firmly interconnected with plentiful socio-emotional problems in adolescent [18]. Social media sources portray constructive and deleterious effects on body image, disordered eating and self-esteem of adolescents ([19].

Media is one of the dominant persuading factors linked with body dissatisfaction, body image apprehension and development of disorders eating in [20]. Media revealed impractical expectations about standard of beauty that heighten anxiety and lower the self-esteem of adolescents [21]

Recent studies highlight the complex relationship between social media usage, disordered eating behaviors, and reproductive health, with particular concern for adolescents and young adults. Social media platforms, such as Instagram and TikTok, have been shown to amplify body image dissatisfaction and encourage comparison with idealized body standards. This exposure can contribute to harmful eating behaviors as users may strive to meet unattainable beauty ideals often portrayed online, increasing the risk of developing disordered eating and related mental health concerns (e.g., body dysmorphia, depression) [22].

This ongoing research underlines the need for continued exploration into how social media contributes to the rising prevalence of disordered eating, emphasizing global health perspectives for a more comprehensive understanding and support for affected individuals.

2. Materials and Methods

2.1 Sample

The sample comprised of young adults (N=200) studying at undergraduate and graduate level (100 males and 100 females). Priority set inclusion criteria for sample was incorporated, i.e., all the students spend at least three hours in using different source of social media (twitter, Facebook, Instagram etc.). Age range of sample was 18 to 25 years (M=21.5, SD=1.57) and data was collected through purposive convenient sampling technique.

2.2 Instruments

Following instruments were used in current study along with demographic Performa.

2.2.1 Eating Attitude Test (EAT-26)

EAT-26 is a measure of eating attitude on four-point Likert scale (0-3 Likert) having three eating attitude subscales as dieting, bulimia and food preoccupation and oral control. The scale has 0.80 alpha coefficients with high inter consistency [22].

2.2.2 Sociocultural Attitudes towards Appearance scale-3 (SATAQ-3)

SATAQ-3 is a Likert type scale ranging from zero (definitely disagree) to four (definitely agree) which measures the effects of television, advertisements, music videos, movie stars, etc. on perception about oneself. It has four sub-constructs named as general, information, pressure and athlete. First three have been used in this study. An alpha coefficient of scale is 0.75[23].

2.2.3 Rosenberg Self-Esteem Scale.

RSES is 10-items, 4-point Likert scale measure global self-worth of person positive and negative feelings. Alpha coefficients of scale reported by author is 0.80 [24].

2.3 Procedure

The researcher visited several universities and collected data after seeking permission using purposive convenient sampling method. The aims of the research were explained for purposes of obtaining informed consent. The participants were given the scales of the study with both written and oral instruction. The participants were ensured of the confidentiality of their information so as encourage their honest and reduce their reluctance.

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3. Results

Table 1 shows the frequencies and percentages of the demographic characteristics of the participants (n=200) by dividing the sample in two age groups below 21 years (57.0%) and above 21 years (43.0%). On the basis of M and SD, sample was further divided in two groups, i.e., education and gender to obtain equal score.

Table 1 Frequencies and Percentages of the Demographic Characteristics of the Participants (N=200)

Variables	f (%)
Age groups	
Below 21	114 (57.0)
21 and above	86(43.0)
Education	
Bs 2nd	100(50.0)
Bs 8th	100(50.0)
Gender	
Male	100(50.0)
Females	100(50.0)

Table 2 depicts the Inter-variable correlation, of RSES, SATAQ-3 and EAT.As it is depicted from table that self -esteem is negatively correlated with SATAQ-3 and eating attitude scale. Table 3 manifests a statistically significant model. It is evident from the table that Sociocultural Attitudes is a significant positive predictor of Disordered Eating ($\beta = .25, t = 3.3, p < .01$) whereas Self- esteem is a significant negative predictor of

Variables	1	2	3	4	5	6	7	8	9	α	M	SD
1.RSES	-	-	-	-	-	-	-	-	-	.63	28.6	4.27
2.SATAQ 3		-.228*	.223*	.244**	.299*	.252**	.122*	.232**	.171*	.75	38.9	8.97
3.GEN			-	.373**	.220*	.227**	.210**	.268**	.195*	.76	14.9	4.58
4.INF				-	.183*	.288**	.256**	.320**	.387**	.64	17.2	5.42
5.PRE					-	.170*	.178**	.199*	.187*	.67	6.93	2.14
6.EAT						-	.383**	.241**	.283**	.78	20.7	9.23
7.DI							-	.375**	.337**	.77	59.4	5.87
8.FPI								-	.271**	.81	3.81	1.97
9.OCI									-	.64	6.10	3.16

Disordered Eating ($\beta = -.18, t = 4.1, p < .05$) and contributes for 4.0% variance in Model.

Table 2 Mean, Standard Deviation, Alpha Reliabilities and Pearson correlation for all the variables of study (N = 200)

Note. 1 = Rosenberg self-esteem scale; 2 = Sociocultural Attitudes Towards Appearance scale-; 3 = General; 4 = Information; 5 = Pressure; 6 = Eating attitude test; 7 = Dieting Items; 8 = Food pre-occupation items; 9 = Oral control items.

* $p < .05$. ** $p < .01$, *** $P < .001$

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Table 3 Multiple Regression Analysis for Sociocultural Attitudes, Self-Esteem, Predicting Disordered Eating (N =200)

Variables	β	ΔR^2	F(Model)
Sociocultural Attitudes	.25**	.04	6.4**
Self-Esteem	-.18*		
<i>Note. *$p < .05$, **$p < .01$, $df = 2152$)</i>			

Table 4 depicts the mean, standard deviation and the t-value of the student’s age groups on RSES, SATAQ-3 and EAT scales. Results indicates that there is no significant

difference between both age groups (below 21 and above 21) on EAT and RSES but slight mean difference of both age group has been seen on SATAQ-3 subscales.

Table 4 Mean, Standard Deviation & t-value of two levels of age among university students on Self-esteem, Sociocultural Attitudes towards Appearance scale-3 and Eating Attitude Test (N = 200).

Variables	Age (below 21)		Age (21&above)		t	p	95 % CI		Cohen's d
	M	SD	M	SD			LL	UL	
RSES	29.9	4.28	27.9	4.19	1.86	.065	-.071	2.32	0.27
SATAQ3	40.9	9.05	36.8	8.46	2.99	.003	1.29	6.24	0.43
GEN	15.8	4.75	13.8	4.06	3.34	.001	.875	3.38	0.34
INF	17.8	5.41	16.2	5.29	2.36	.019	.294	3.30	0.34
PRE	6.8	1.96	7.02	2.35	-.58	.592	-.770	.437	-0.73
EAT	20.6	9.39	20.8	9.16	-.15	.881	-2.81	2.41	-0.21
DI	59.3	5.99	59.5	5.74	-.24	.816	-1.86	1.47	-0.04
FPI	3.95	1.95	3.63	1.99	1.15	.256	-.24	.872	0.29
OCI	6.24	3.16	5.91	3.17	.74	.466	-.57	1.23	0.10

Note. 1 = Rosenberg self-esteem scale; 2 = alexithymia scale; 3 = difficulty in recognizing emotion item; 4 = difficulty in expressing feelings item; 5 = introspective awareness item; 6 = eating attitude test; 7 = dieting Items; 8 = food pre-occupation items; 9 = oral control items.

Table 5 depicts the mean, standard deviation and the t-value of the student's gender on RSES, SATAQ-3 and EATS scales. Results indicate significant mean difference between male and female score on RSES as male score high on this construct. Furthermore, on SATAQ-3 and EAT scales, significant mean difference has been seen as female score high on both SATAQ-3 and EAT scales and their respective subscales.

Table 5 Mean, Standard Deviation & t-value of two groups of Gender among University students on Self-esteem, Alexithymia Scale and Eating Attitude Test (N = 200)

Variables	Males		Females		t	p	95 % CI		Cohen's d
	M	SD	M	SD			LL	UL	
RSES	39.5	6.02	19.2	3.48	-1.39	.169	-2.02	.356	-0.19
SATAQ3	40.4	7.64	57.5	9.98	2.44	.016	.579	5.53	0.34
GEN	15.7	4.57	24.8	6.75	2.56	.011	.373	2.89	0.37
INF	17.5	5.55	26.9	7.27	1.21	.230	-.588	2.43	0.17
PRE	7.18	2.22	10.6	4.03	1.67	.097	-.091	1.09	0.24
EAT	17.9	8.47	23.9	9.17	4.49	.000	3.15	8.06	0.64
DI	43.7	5.78	60.7	7.67	3.35	.001	1.12	4.31	0.48
FPI	13.2	1.98	25.4	2.88	2.87	.005	.242	1.32	0.40
OCI	26.8	3.01	35.9	6.16	3.24	.001	.550	2.28	0.46

Note. 1 = Rosenberg self-esteem scale; 2 = alexithymia scale; 3 = difficulty in recognizing emotion item; 4 = difficulty in expressing feelings item; 5 = introspective awareness item; 6 = eating attitude test; 7 = dieting Items; 8 = food pre-occupation items; 9 = oral control items.

Discussion

The finding of current research present conclusive evidence related to social media, self-esteem and disordered eating in adolescents and profoundly supported by preceding literature. Findings of the current investigation endorses disordered eating will be positively related to social media exposure. Moreover, there is a significant positive link among social media and disordered eating. Mansfield determined the positive connection among media exposure and body dissatisfaction in male and female colleague students who have abundantly seen television advertisement [25]. In conjunction, impact of media in our life is progressively increasing. Young generation is approximately spending 7 to 8 hours in viewing multiple media sources. This is affecting their emotional, social and mental well-beings. Similar findings were postulated by Cohen, who found television advertisement as provoking by setting unrealistic standards of beauty that are accomplishable and promoting body image dissatisfaction that are leading cause of dietary problems in adolescents (26).

The second hypothesis of current study anticipated that self-esteem will be inversely related to social media exposure and disordered eating. Our correlation and regression analysis results depicted an absolute support for this hypothesis. This is also powerfully supported by preceding literature [27] for instance, prior investigation concluded self-esteem as dynamic construct that promote idiosyncratic respect and values for self and found a negative connection among self-esteem, disordered eating [28] and social media exposure [29]. Similarly, Suhail concluded low self-esteem as strong predictor of disordered eating in adolescents [30]. In the same context, individuals having low self-esteem are more prone to have aesthetic characteristic that ultimately led them to disordered eating patterns [31].

Moreover, the hypothesis 3 and 4 was designed to investigate the gender difference of the concerned sample. The independent sample t-test static was carried out to check the presumed conception of study and findings are solidified by preceding literature on gender difference with regard to disordered eating, impact of social media and self-esteem.

Our third hypothesis proposed that females will score higher on disordered eating and social media exposure as compared to their male counterparts. Findings concerning the gender differences specified female as more prone to have eating problems as compared to men because they faced more difficulty in emotional reorganization. Women emotional nature makes them more susceptibility for emotional problems as they powerfully gasped what they have seen on media [32]. Moreover, prevalence of disordered eating is high in young girls when they faced difficulty to reorganization and enlightenment of their emotions as compared to boys [33]. In the same context, it is concluded that women as more predisposed to have disordered eating patterns

as compared to men due to electronic media exposure who set hard-hitting standards of beauty by assuming women to be thin and lean (34).

Our fourth hypothesis proposed that males will score higher on self-esteem as compared to their female counter parts. For example, investigator conducted research on young girl dieting habits and concluded that excessive dieting and bingeing behavior is strongly linked with low self-esteem in young girls [35]. Although, various investigation conducted in current area focused more on women than men [36] and solidify current research findings.

Conclusion

This study contributed to the accessible literature of three distinctive constructs of disordered eating, impact of social media, and self-esteem by investigating their correlation and by giving importance on their speculative and empirical connection. In conclusive stance, current study revealed that social media exposure has positive relation with disordered eating and negative relation with self-esteem.

Implications

Current study does have definite realistic implications in helping parents, caregivers, educationist and consular to plan intervention strategies to recover the disordered eating patterns, alexethmic and self-esteem. Moreover, the results of present study help the counsellor and care giver to generate insight in adolescents related to healthy nutritional diet and helps them to manage their emotions and boost their self-esteem.

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