

Is Eating Pathology Prevalent Among Social Media Users of Karachi, Pakistan ? A Cross-sectional Study

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Research note

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Abstract

Objective: Social media has been known to influence eating habits especially amongst children and adolescents. However, substantive literature is not present that thoroughly investigates a correlation between eating disorder pathology and the use of social media applications for male and female subjects, especially in a developing country like Pakistan. This study aims to investigate and compare the effects of social media on eating disorder pathology development in young male and female Pakistanis and analyze what factors (frequency of use, type of application, content etc) increase eating disorder pathology risk amongst them.

Results: The mean age of the sample was 21.1 ± 2.6 years. A positive correlation was seen between excessive use of social media and the risk of ED pathology. High EDE-Q scorers used social media everyday and acknowledged social media pressure to stay thin. However no statistically significant differences were seen amongst male vs female subjects. Social media usage correlated with developing BID and ED pathology amongst young Pakistani users. However further investigated is warranted in other populations to reach a more substantive conclusion.

Introduction

Human nature always compares physical appearance with an idealistic vision of perfection. In this quest, a person's dissatisfaction with their body image can manifest itself to such extremes, where it can inculcate pathological relationships with food, that is eating disorders.[1] Originally it was assumed that the phenomena of body image dissatisfaction (BID) is only limited to young females but recent research has shown that it is observed in all ages and in both genders.[2]

It is widely agreed upon that mass media plays a pivotal role in inculcating BID and eating disorder (ED) pathology patterns amongst people, along with other biological, psychological and environmental factors. [3] Social media is the hallmark invention of today's smartphone application era, where Social Networking Applications (SNAs) like Facebook and Instagram have taken precedence over all means of communication, especially in the millennial population.[5] Out of 600 Facebook users aged 16 to 40, 50% people reported that Facebook content made them more self conscious about their body image.[6] One study reported evidence that pro-anorexic content viewing on Facebook significantly increased bulimic symptoms and episodes of binge eating in the study population.[6,7] Another survey revealed similar results highlighting that disordered eating was linked to excessive SNA use.[8]

Valid statistics and empirical information on eating disorders remain scattered amongst specific pockets of mainly female subjects in Pakistan. But for both males and females, it continues to remain incredibly scarce in Pakistan. Hence we saw the need to further explore that avenue. Therefore, the objective of our study was to assess the prevalence of eating pathologies in social media users of Karachi, Pakistan.

Methodology

The cross sectional study was conducted from June 2019 to December 2019 in Karachi, Pakistan.

Sample size

Based on the assumption that 22.7% of the individuals had a high risk of developing eating disorder[15] and taking a 5% margin of error and 95% confidence level, the calculated sample was 270. This was increased to 450 to attain maximal representation.

Participants

The target population consisted of individuals with access to social media who willingly wished to participate in the study. Non-probability convenience sampling was used to recruit participants. A participant was excluded from the study if they were diagnosed with a chronic illness or endocrine disturbance that may have altered their eating behavior. Each participant was explained the objective of the research and its impact by the investigator in a written informed consent form. Four-fifty people were approached out of which 428 completed the form, resulting in a response rate of 95%. Partially filled forms were excluded, no imputation methods were applied. Confidentiality was ensured in the consent form. The sample was limited to the residents of Karachi, with students from various institutions, minimizing the chances of selection bias.

Procedure

Each participant completed a self-report questionnaire in English. A pilot study was first conducted that included 30 medical students following which necessary alterations were made to the questionnaire and the results of this pilot study were excluded. The questionnaire was designed by combining the Eating Disorder Examination Questionnaire (EDE-Q) version 6 with questions regarding social media use. The EDE-Q[16] is a validated self-administered questionnaire used to measure eating disorders. The questionnaire was divided into 5 sections. The first section included questions on demographics. Height and weight were measured on the same day using an inch tape and weighing scale respectively, to accurately calculate the body mass index (BMI). The second section focused on social media exposure which was further divided into direct exposure and indirect exposure. Direct exposure was assessed by (1) self-reported affirmation of the presence of selected electronic devices in the household and (2) the frequency and volume of social media use. Indirect exposure was assessed by inquiring about the volume and frequency of social media use by the participant's social circle and the participant's level of interaction with them. The third section focused on social media content which included three questions on the applications used. The fourth section contained seven questions in tabular form to evaluate the desire of a leaner body image influenced by social media. And the final section included the EDE-Q which is a 28 item questionnaire used to reflect the severity of eating disorder psychopathology; it is a 7-point Likert (0 = no days, 1 = 1–5 days, 2 = 6–12 days, 3 = 13–15 days, 4 = 16–22 days, 5 = 23–27 days, 6 = everyday, or "not at all" to "a lot") instrument that has four subscales (i.e., restraint, eating concern, shape concern, and weight concern). Upon assessment of reliability, shape concern, weight concern, restraint, eating concern and global score had a Cronbach's alpha value of 0.870, 0.767, 0.866, 0.781 and 0.941 respectively.

Assessment and analysis

Weight was obtained in kilogram (kg) and height was converted to meters (m). The data thus obtained were entered on and analyzed using International Business Machines - Statistical Package for the Social Sciences version 20. Relevant frequency and percentages were calculated for qualitative variables whereas means \pm standard deviations were calculated for quantitative variables. Clinical significance of EDE-Q subscales and global scores marker was set at cut-off of ≥ 4 . P-value was obtained through Pearson Chi Square Test for categorical and *t* test for continuous data to determine the significance of the results. A $P < 0.05$ was taken to be significant.

Results

Table 1 depicts the characteristics of our sample. Majority ($n=224$; 52.3%) of the participants were male. The mean age of the sample was 21.1 ± 2.6 years, with a mean BMI of 21.4 ± 3.5 kg/m². Most of the participants ($n=330$; 77.1%) reported using social media every day of the week, with 61.2% ($n=262$) of the total sample being most active on Facebook as compared to any other platform.

Table 2 shows the percentage of participants who scored in the clinically significant range for the different EDE-Q scales, in relation to their social media usage and demographic characteristics. Individuals using social media daily scored significantly higher in the categories of eating concern ($n=6$, 37.5%), shape concern ($n=30$, 68.2%) and restraint ($n=32$, 72.7%) scale. In general, most participants having a clinically significant score in any of the scales were regular Facebook users, with the exception of the eating concern scale, in which most people ($n=13$; 81.2%) were Instagram users. The majority of the participants with significant scores reported following fitness experts on their social media accounts, and had a normal BMI. However, when comparing the BMI within each scale, a statistically significant difference was seen only for the Shape Concern ($p=0.001$), Weight Concern ($p=0.001$) and Global ($p=0.043$) scores.

Table 3 shows that out of the people scoring in the clinically significant range for the different EDE-Q scales, a majority ($n=98$, 59.3%) of participants agreed that they had felt pressure from social media to lose weight. This was seen to be significant for all the scales, except the eating concern scale. A majority of people also agreed that they had felt pressure from social media to be thin, have a perfect body, diet, exercise and change their appearance and the difference was significant ($p < 0.001$ for all global scores).

Table S1 and S2 (supplementary file) display the mean scores for EDE-Q of all participants, in relation to their social media usage and demographic characteristics and in relation to the desire for a leaner body image, respectively.

Discussion

According to the results, a positive correlation was observed between excessive social media usage and an increased risk of developing eating disorders. Amongst those participants who used social media every day, 37.5% developed eating concerns and 80% said they've felt pressure from social media to be skinny.

These numbers provide overwhelming evidence to support the staggering strength of social media to develop body dissatisfaction and influencing unhealthy eating habits. Similar results were also observed in a study by Becker et al, where increased social network media exposure was strongly associated with eating pathology amongst adolescent girls in Fiji.[17] Past literature has also surmised similar patterns of mass media influence on ED pathology amongst young adults. A Karachi based study found 99 (22.75%) subjects with high risk of ED pathology using the EAT questionnaire.[19]

Another notable finding is that 73% participants with “normal” BMI ranges reported a higher global score, i.e. more likely to develop eating disorders. A similar outcome was observed in a study where 29.6% of the subjects with normal BMI values were diagnosed with eating disorders.[19] Those with higher BMI values also exhibited a significant relation with increased shape and weight concerns. Overweight and normal weight individuals had higher scores than underweight individuals and were more likely to exhibit ED pathology. This finding is reinforced by another study based in the same setting i.e. city of Karachi, thus showing a pattern highlighting the mindset of the young population in Karachi.[19]

Contrary to our hypothesis, most of our subjects (60%) disagreed that social media influenced their eating habits or their self esteem. Another unusual finding that is unique to our study was that no significant difference between ED pathology and gender was noted. Scores for both genders were higher than the cut-off indicating equal risk of eating disorders amongst both males and females. This finding is contrary to those of many studies which typically report that females are at higher risk. Pope et al. reported a ratio of anorexia 1% to 4.2 % and bulimia 6.5% to 18.6% amongst female subjects while male subjects were zero. [21] A Karachi based study also gave similar results with majority females reporting high scores in comparison to male subjects.[19]

Furthermore, age was not statistically significant demographic factor in our study. Which defers from commonly reported results where a younger/adolescent age group is more susceptible to disordered eating. As highlighted by Memon et al’s study where 65.65% of high risk participants were between 18-21 years old.[19] Another study from Islamabad amongst female students showed 66.5% of the younger age group of 16 -18 to be more vulnerable to BID.[24]

Indirect media influence via friends and family has also been reported as a key player in influencing ED prone behavior.[17] Interestingly, a significant correlation was further seen between increased eating concerns and all of the subject’s friends being active on social media. This provides evidence to support that forming a social network of people who have a similar mindset and susceptible to develop eating disorders, who interact online reinforces these negative attitudes. A similar concern has been extensively covered in a review where the alarming presence and usage of pro- ED websites and communities online was evaluated.[22] Another cross-sectional study with ED diagnosed participants revealed that 35.5% of them visited pro-ED sites and social media pages. [23]

It is important to outline which SNA’s in specific lead to a higher risk of ED pathology. We noted that those who scored higher on the eating score frequented the visual image oriented application Instagram more than others. A similar view was addressed by a study in the U.S where they mentioned the use of social

media platforms like Instagram, Pinterest which involve the sharing of pictures and videos lead to a stronger association with BID.[25]

Conclusion

The results of the study show that excessive use of social media was associated with an increased risk of eating pathology in our sample population. Most participants did not feel any pressure from social media regarding their weight or body image, however, those that did report feeling pressurized scored significantly higher on all the EDE-Q scales and also tended to score in the clinically significant range.

Limitations

The study remains limited on various scopes. As a cross sectional study it cannot make causal inference. We were unable to compare between different economic populations like urban versus rural communities, and thus we cannot claim that our results are largely representative of the country. Our measures of media exposure did not allow examination at a more granular level regarding what singular elements of mass media were most relevant to ED pathology.

List Of Abbreviations

ED: Eating disorder

SNA: Social networking applications

BID: Body image dissatisfaction

BMI: Body mass index

EDE-Q: Eating Disorder Examination Questionnaire

Declarations

Ethics approval and consent to participate

The study was approved by the Ethical Review Committee of Dow University of Health Sciences, Pakistan and written informed consent was taken from each participant prior to data collection.

Consent for publication

Informed consent was obtained from the study participants for publication of data.

Availability of data and material

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests.

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None.

Authors' contributions

IZ, MM were involved in study design. IZ and HW analyzed the data. IZ, MM, SWH, SA and OZ were involved in data collection, article writing and compilation of the manuscript. All authors have read, reviewed and approved the final manuscript.

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References

- [1] Fisher S. Development and Structure of the Body Image. 2014.
- [2] Webster J, Tiggemann M. The relationship between women's body satisfaction and self-image across the life span: the role of cognitive control. *J Genet Psychol* 2003;164:241–52.
- [3] Striegel-Moore RH, Rosselli F, Perrin N, DeBar L, Wilson GT, May A, et al. Gender difference in the prevalence of eating disorder symptoms. *Int J Eat Disord* 2009;42:471–4.
- [4] Bair CE, Kelly NR, Serdar KL, Mazzeo SE. Does the Internet function like magazines? An exploration of image-focused media, eating pathology, and body dissatisfaction. *Eat Behav* 2012;13:398–401.
- [5] Website n.d. Facebook Statistics. Available at: <http://www.facebook.com/press/info.php?statistics>. Accessed June 8, 2011 Duggan M, Brenner J. (accessed October 17, 2018).
- [6] Villiard H, Moreno MA. Fitness on Facebook: Advertisements Generated in Response to Profile Content. *Cyberpsychol Behav Soc Netw* 2012;15:564–8.
- [7] Smith AR, Hames JL, Joiner TE. Status Update: Maladaptive Facebook usage predicts increases in body dissatisfaction and bulimic symptoms. *J Affect Disord* 2013;149:235–40.
- [8] Murray M, Maras D, Goldfield GS. Excessive Time on Social Networking Sites and Disordered Eating Behaviors Among Undergraduate Students: Appearance and Weight Esteem as Mediating Pathways. *Cyberpsychol Behav Soc Netw* 2016;19:709–15.

- [9] Thomsen SR, Kelly McCoy J, Williams M. Internalizing the Impossible: Anorexic Outpatients' Experiences With Women's Beauty and Fashion Magazines. *Eat Disord* 2001;9:49–64.
- [10] Hisam A, Rahman MU, Mashhadi SF. Anorexia Nervosa Among Teenage Girls: Emerging Or Prevalent? *Pak J Med Sci Q* 1969;31. doi:10.12669/pjms.316.7617.
- [11] Suhail K, Zaib-u-Nisa. Prevalence of eating disorders in Pakistan: Relationship with depression and body shape. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity* 2002;7:131–8.
- [12] Alam M, Ahmed M, Ali SS, Atiq M, Akhtar YN, Ansari A, et al. Paediatric stool cultures: Seasonal variation in bacterial pathogens isolated in Karachi, Pakistan. *Trop Doct* 2005;35:21–3.
- [13] Mond J, Hall A, Bentley C, Harrison C, Gratwick-Sarll K, Lewis V. Eating-disordered behavior in adolescent boys: Eating disorder examination questionnaire norms. *Int J Eat Disord* 2013;47:335–41.
- [14] Website n.d. <https://www.nationaleatingdisorders.org/research-males-and-eating-disorders>. Raevuoni 2014. (accessed October 17, 2018).
- [15] Memon, A.A., Adil, S.EeR., Siddiqui, E.U. *et al.* Eating disorders in medical students of Karachi, Pakistan-a cross-sectional study. *BMC Res Notes* **5**, 84 (2012). <https://doi.org/10.1186/1756-0500-5-84>
- [16] Brewin, N., Baggott, J., Dugard, P., & Arcelus, J. (2014). Clinical normative data for Eating Disorder Examination Questionnaire and Eating Disorder Inventory for DSM-5 feeding and eating disorder classifications: A retrospective study of patients formerly diagnosed via DSM-IV. *European Eating Disorders Review*, 22, 299–305. <http://dx.doi.org/10.1002/erv.2301>
- [17] Becker AE, Fay KE, Agnew-Blais J, Khan AN, Striegel-Moore RH, Gilman SE. Social network media exposure and adolescent eating pathology in Fiji. *Br J Psychiatry*. 2011;198(1):43-50. doi:10.1192/bjp.bp.110.078675.
- [18] Strasburger VC, Jordan AB, Donnerstein E. Health effects of media on children and adolescents. *Pediatrics*. 2010;125(4):756-767. doi:10.1542/peds.2009-2563.
- [19] Memon AA, Ezz-E-Rukhshan Adil S, Siddiqui EU, Naeem SS, Ali SA, Mehmood K. Eating disorders in medical students of Karachi, Pakistan-a cross-sectional study. *BMC Res Notes*. 2012;5(1):84. doi:10.1186/1756-0500-5-84.
- [20] van den Berg P, Paxton SJ, Keery H, Wall M, Guo J, Neumark-Sztainer D. Body dissatisfaction and body comparison with media images in males and females. *Body Image*. 2007;4(3):257-268. doi:10.1016/j.bodyim.2007.04.003.
- [21] Pope HG, Hudson JI, Yurgelun-Todd D, Hudson MS. Prevalence of anorexia nervosa and bulimia in three student populations. *Int J Eat Disord*. 1984;3(3):45-51. doi:10.1002/1098-108X(198421)3:3<45::AID-EAT2260030304>3.0.CO;2-G.

- [22] Custers K. The urgent matter of online pro-eating disorder content and children: clinical practice. *Eur J Pediatr.* 2015;174(4):429-433. doi:10.1007/s00431-015-2487-7.
- [23] Wilson JL, Peebles R, Hardy KK, Litt IF. Surfing for thinness: a pilot study of pro-eating disorder Web site usage in adolescents with eating disorders. *Pediatrics.* 2006;118(6):e1635-43. doi:10.1542/peds.2006-1133.
- [24] Shaikh, M. A., & Kayani, A. (2014). Detection of eating disorders in 16-20 year old female students—perspective from Islamabad, Pakistan. *Journal of the Pakistan Medical Association, 64*(3), 334–336.
- [25] Sidani, J. E., Shensa, A., Hoffman, B., Hanmer, J., & Primack, B. A. (2016). The Association between Social Media Use and Eating Concerns among US Young Adults. *Journal of the Academy of Nutrition and Dietetics, 116*(9), 1465–1472.

Tables

Table 1. Demographics

	Mean±SD/Frequency
Age (years)	21.1±2.6
Gender	
Male	224 (52.3)
Female	204 (47.7)
Height (inch)	66.6±4.2
Weight (kg)	61.5±13.3
BMI (kg/m²)	21.4±3.5

Table 2. Individuals above cut-off score for EDE-Q in relation to social media and demographics						
		Eating concern	Restraint	Shape concern	Weight concern	Global score
		>=4	>=4	>=4	>=4	>=4
On average, how many days a week do you use social media?	1	0 (0.0)	1(2.3)	2(4.5)	2(4.3)	1(6.7)
	2	1(6.2)	3(6.8)	2(4.5)	1(2.2)	1(6.7)
	3	5(31.2)	3(6.8)	3(6.8)	1(2.2)	1(6.7)
	4	2(12.5)	5(11.4)	5(11.4)	5(10.9)	0(0.0)
	5	0(0.0)	0(0.0)	0(0.0)	1(2.2)	0(0.0)
	6	2(12.5)	0(0.0)	2(4.5)	6(13.0)	0(0.0)
	7	6(37.5)	32(72.7)	30(68.2)	30(65.2)	12(80.0)
	P-value	<0.001*	0.010*	0.042*	0.057	0.292
How many hours/day do you usually spend using social media?	>4hrs	6(37.5)	15(34.1)	10(22.7)	12(26.1)	5(33.3)
	2-4hrs	3(18.8)	11(25.0)	19(43.2)	19(41.3)	4(26.7)
	1-2hrs	5(31.2)	14(31.8)	12(27.3)	11(23.9)	4(26.7)
	<1hr	2(12.5)	4(9.1)	3(6.8)	4(8.7)	2(13.3)
	P-value	0.406	0.302	0.641	0.612	0.737
Electronic devices present in household	Internet connection	15(93.8)	41(93.2)	43(97.7)	43(93.5)	14(93.3)
	Mobile phone	15(93.8)	42(95.5)	44(100.0)	43(93.5)	15(100.0)
	Tablet/iPad	6(37.5)	24(54.5)	24(54.5)	25(54.3)	8(53.3)
	Laptop	5(31.2)	24(54.5)	31(70.5)	31(67.4)	11(73.3)
	PC	6(37.5)	13(29.5)	12(27.3)	15(32.6)	7(46.7)
What forms of social media do you use on a regular basis?	Facebook	11(68.8)	37(84.1)	37(84.1)	42(91.3)	14(93.3)
	YouTube	9(56.2)	27(61.4)	30(68.2)	26(56.5)	11(73.3)
	Snapchat	9(56.2)	24(54.5)	27(61.4)	24(52.2)	8(53.3)
	Instagram	13(81.2)	25(56.8)	31(70.5)	29(63.0)	10(66.7)
	Others	0(0.0)	0(0.0)	1(2.3)	1(2.2)	0(0.0)
Which of these sites do you use the most?	Facebook	9(56.2)	27(61.4)	23(52.3)	33(71.7)	11(73.3)
	YouTube	1(6.2)	5(11.4)	7(15.9)	6(13.0)	3(20.0)

	Snapchat	4(25.0)	5(11.4)	9(20.5)	4(8.7)	0(0.0)
	Instagram	2(12.5)	7(15.9)	5(11.4)	3(6.5)	1(6.7)
	Others	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
	P-value	0.085	0.217	0.060	0.482	0.818
What kinds of pages/accounts do you tend to follow?	Singers and actors	8(50.0)	16(36.4)	21(47.7)	18(39.1)	6(40.0)
	Beauty gurus	2(12.5)	5(11.4)	14(31.8)	14(30.4)	5(33.3)
	Fitness experts	8(50.0)	22(50.0)	25(56.8)	26(56.5)	11(73.3)
	Fashion models	5(31.2)	14(31.8)	11(25.0)	10(21.7)	7(46.7)
	Reality stars	3(18.8)	7(15.9)	12(27.3)	13(28.3)	6(40.0)
	Lifestyle and travel accounts	7(43.8)	15(34.1)	19(43.2)	18(39.1)	9(60.0)
How often do you check these pages for updates?	Never	0(0.0)	1(2.3)	2(4.5)	2(4.3)	0(0.0)
	Whenever they show up on my feed	9(56.2)	24(54.5)	28(63.6)	23(50.0)	9(60.0)
	Few times a month	1(6.2)	6(13.6)	4(9.1)	3(6.5)	2(13.3)
	Few times a week	3(18.8)	3(6.8)	6(13.6)	8(17.4)	1(6.7)
	Always	3(18.8)	10(22.7)	4(9.1)	10(21.7)	3(20.0)
	P-value	0.567	0.009*	0.550	0.161	0.308
Do your parents use any form of social media?	Yes	12(75.0)	37(84.1)	38(86.4)	41(89.1)	11(73.3)
	No	4(25.0)	7(15.9)	6(13.6)	5(10.9)	4(26.7)
	P-value	0.526	0.560	0.328	0.166	0.504
If yes, how many days a week do your parents check social media?	1-3	8(66.7)	13(35.1)	12(31.6)	13(31.7)	5(45.5)
	4-6	1(8.3)	7(18.9)	11(28.9)	10(24.4)	2(18.2)
	7	3(25.0)	17(45.9)	15(39.5)	18(43.9)	4(36.4)
	P-value	0.003*	0.145	0.391	0.397	0.224
How many of your friends and	None of them	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)

acquaintances are active on social media?	A few of them	7(43.8)	8(18.2)	8(18.2)	6(13.0)	2(13.3)
	More than half of them	3(18.8)	13(29.5)	13(29.5)	11(23.9)	5(33.3)
	All of them	6(37.5)	23(52.3)	23(52.3)	29(63.0)	8(53.3)
	P-value	<0.001*	0.052	0.052	0.416	0.428
How often do you interact with them online?	Every day	5(31.2)	18(40.9)	12(27.3)	13(28.3)	7(46.7)
	4-6 days a week	1(6.2)	6(13.6)	6(13.6)	9(19.6)	1(6.7)
	1-3 days a week	8(50.0)	10(22.7)	9(20.5)	9(19.6)	3(20.0)
	Less than once a week	2(12.5)	10(22.7)	17(38.6)	15(32.6)	4(26.7)
	P-value	0.050	0.064	0.293	0.731	0.226
BMI	Underweight	4(25.0)	11(25.0)	6(13.6)	8(17.4)	0(0.0)
	Normal	11(68.8)	26(59.1)	24(54.5)	23(50.0)	11(73.3)
	Overweight	0(0.0)	7(15.9)	10(22.7)	12(26.1)	3(20.0)
	Obese	1(6.2)	0(0.0)	4(9.1)	3(6.5)	1(6.7)
	P-value	0.259	0.266	0.001*	0.001*	0.043*
Gender	Male	10(62.5)	29(65.9)	18(40.9)	20(43.5)	7(46.7)
	Female	6(37.5)	15(34.1)	26(59.1)	26(56.5)	8(53.3)
	P-value	0.454	0.079	0.114	0.215	0.794
Age	<21	9(56.2)	16(36.4)	13(29.5)	19(41.3)	4(26.7)
	21-25	7(43.8)	24(54.5)	27(61.4)	23(50.0)	10(66.7)
	>25	0(0.0)	4(9.1)	4(9.1)	4(8.7)	1(6.7)
	P-value	0.194	0.130	0.176	0.074	0.534
*P<0.05 considered as significant						

Table 3. Individuals above cut-off score for EDE-Q in relation to the desire for a leaner body image						
		Eating concern	Restraint	Shape concern	Weight concern	Global score
		>=4	>=4	>=4	>=4	>=4
I've felt pressure from social media to lose weight	Disagree	7(43.8)	20(45.5)	7(15.9)	8(17.4)	1(6.7)
	Neutral	1(6.2)	6(13.6)	7(15.9)	7(15.2)	3(20.0)
	Agree	8(50.0)	18(40.9)	30(68.2)	31(67.4)	11(73.3)
	P-value	0.052	0.015*	<0.001*	<0.001*	<0.001*
I do not feel pressure from social media to look pretty.	Disagree	4(25.0)	18(40.9)	20(45.5)	17(37.0)	6(40.0)
	Neutral	4(25.0)	8(18.2)	9(20.5)	13(28.3)	3(20.0)
	Agree	8(50.0)	18(40.9)	15(34.1)	16(34.8)	6(40.0)
	P-value	0.650	0.679	0.415	0.633	1.000
I've felt pressure from social media to be thin.	Disagree	3(18.8)	16(36.4)	7(15.9)	9(19.6)	0(0.0)
	Neutral	1(6.2)	6(13.6)	3(6.8)	5(10.9)	3(20.0)
	Agree	12(75.0)	22(50.0)	34(77.3)	32(69.6)	12(80.0)
	P-value	<0.001*	<0.001*	<0.001*	<0.001*	<0.001*
I've felt pressure from social media to have a perfect body.	Disagree	3(18.8)	18(40.9)	4(9.1)	8(17.4)	1(6.7)
	Neutral	4(25.0)	9(20.5)	9(20.5)	7(15.2)	4(26.7)
	Agree	9(56.2)	17(38.6)	31(70.5)	31(67.4)	10(66.7)
	P-value	0.011*	0.164	<0.001*	<0.001*	<0.001*
I've felt pressure from social media to diet.	Disagree	3(18.8)	15(34.1)	5(11.4)	7(15.2)	1(6.7)
	Neutral	1(6.2)	8(18.2)	8(18.2)	8(17.4)	3(20.0)
	Agree	12(75.0)	21(47.7)	31(70.5)	31(67.4)	11(73.3)
	P-value	<0.001*	0.001*	<0.001*	<0.001*	<0.001*
I've felt pressure from social media to exercise.	Disagree	3(18.8)	12(27.3)	4(9.1)	9(19.6)	1(6.7)
	Neutral	2(12.5)	5(11.4)	5(11.4)	3(6.5)	1(6.7)
	Agree	11(68.8)	27(61.4)	35(79.5)	34(73.9)	13(86.7)
	P-value	0.053	0.004*	<0.001*	<0.001*	<0.001*

I've felt pressure from social media to change my appearance	Disagree	2(12.5)	14(31.8)	5(11.4)	11(23.9)	0(0.0)
	Neutral	4(25.0)	8(18.2)	8(18.2)	11(23.9)	3(20.0)
	Agree	10(62.5)	22(50.0)	31(70.5)	24(52.2)	12(80.0)
	P-value	0.004*	0.005*	<0.001*	<0.001*	<0.001*

* $P < 0.05$ considered as significant

Supplementary Files

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- [Supplementarytables.docx](#)