Sociocultural Influence and Eating Problem in University Students: Mediating Role of Body Image Dissatisfaction

Muakkarama Hamid, Amarah Qureshi, Ayesha Waheed, and Qurat-ul-Ain Hashmi

University of Management and Technology

disorders are no-longer considered culture-bound syndromes of the West with increasing prevalence rates across the globe. Despite the growing concern, there's a paucity of research on the etiological mechanisms underlying eating disorders in Pakistani university students, including both men and women. Based on sociocultural theory, objectification theory and selfdiscrepancy theory, the present study examined the mediating role of body image dissatisfaction between sociocultural influences (family, peers, and media) and eating problems in university students. A cross-sectional study was designed where 181 participants (men = 92; women = 89) were selected (M_{age} = 21.87 years, SD = 1.88) through convenience sampling. An online selfadministered survey was conducted with validated measures, Attitudes including Sociocultural Towards Appearance Questionnaire (SATAQ-4) (Schaefer et al., 2015), Body Esteem Scale for Adolescents and Adults (BESAA) (Mendelson et al., 2001) and Eating Attitudes Test (EAT-26) (Garner et al., 1982). Hayes' PROCESS was used to conduct the mediation analysis. Pearson correlation was used to ensure that sociocultural influences, body image dissatisfaction and eating problems were correlated with each other. The results indicated that body image dissatisfaction mediated between sociocultural influences (family, peers, media) and eating problems. The study has implications for the prevention and intervention of body image and eating disorders with reference to media literacy programs, counseling and psychoeducation.

Keywords. Eating disorders, mediation, sociocultural influences, parental influence, peer pressure, media influence, body image, university students

Muakkarama Hamid, Amarah Qureshi, Ayesha Waheed and Qurat-ul-Ain Hashmi, Department of Psychology, School of Professional Psychology, University of Management and Technology, C-II, Johar Town, Lahore, Pakistan.

Correspondence concerning this article should be addressed to Amarah Qureshi, Department of Psychology, School of Professional Psychology, University of Management and Technology, C-II, Johar Town, Lahore, Pakistan. Email: amarah.qureshi@umt.edu.pk

Eating problems have profound and far-reaching consequences on one's physical, mental and psychosocial functioning; they increase the risk for conditions like depression, substance abuse and obesity (Stice et al., 1999; Stice et al., 2000; Stice & Shaw, 2003). Anorexia Nervosa has the highest mortality rate of all psychiatric illnesses, just shy of drug overdose (Smink et al., 2012). Sadly, the global prevalence rates have doubled from 3.4% to 7.8% since the year 2000 (Galmiche et al., 2019), which highlights that eating problems have become a global phenomenon, refuting the old assumption that they were culture-bound syndromes of the West. Eating disorder prevalence has also seen an upward trend in Pakistan starting from the year 1990 to 2019 (Zahra et al., 2023).

In the current study, the term "eating problems" will be used interchangeably to refer to eating disorders or disturbed/maladaptive eating behaviors. The *Diagnostic and Statistics Manual of Mental Disorders* (5th ed.; *DSM-5*) defines eating disorders as "characterized by a persistent disturbance of eating or eating-related behavior that results in the altered consumption or absorption of food and that significantly impairs physical health or psychosocial functioning" (APA, 2013a, p. 329). The DSM-5 recognizes eight official Feeding and Eating Disorders (FED). However, the current study focuses on Anorexia Nervosa (AN), Bulimia Nervosa (BN) and Binge Eating Disorder (BED).

Various avenues of exploration for etiological and maintenance factors of eating disorders are documented in literature. Amongst others, sociocultural influences have gained much more attention in recent decades. Sociocultural influences refer to people's everyday experiences that impact how they view their bodies, which often force them to undertake maladaptive eating behaviors like bingeing or purging to change their appearance and be more in line with the societal ideal (Ata et al., 2015). Specifically, women universally endorse the ever-shrinking thin-ideal, while men endorse a slender but muscular physique (Grogan, 2016). The empirical literature backing up the sociocultural perspective (Thompson et al., 1999) has implicated three sociocultural factors in the development and maintenance of body dissatisfaction and eating disorders, i.e. media, peers and family.

Undeniably, mass media (always portraying perfect bodies) are the most potent agents of setting the stereotypical norms of beauty that impact body image and eating problems (Bandura, 2009). Mass media are all the communication channels that convey information to a vast audience, including billboards, radio, TV and magazines (Levine & Smolak, 1998). Nowadays, mass media also include social media

platforms. Mass media's role in fostering poor body image and eating disturbances is well-established. A study on college students found that women showed higher body dissatisfaction than men, which was strongly linked with media pressures (Radwan et al., 2018). Further research has found media exposure (e.g., magazines, television, internet) to be positively linked with poor body image, particularly in college women (Khan et al., 2011), while problematic social media use has been implicated as a predictor of body dissatisfaction and disordered eating in college students (Santarossa & Woodruff, 2017). Pakistani literature, although limited, has also revealed that young women who watch dieting-related TV programs are more likely to develop disordered eating (Abideen et al., 2011).

Sociocultural pressures on appearance also come from another factor, i.e., one's peers. They may be conveyed directly (e.g., direct comments, encouragement to diet, teasing) or perceived indirectly, e.g., observing friends' body image concerns, hearing fat-talk and diet-talk among friends (Thompson et al., 1999). Naturally, with growing independence from parents, peers become a reference group for young adults. Longitudinal research in university students showed that peers' dieting predicted disturbed eating behaviors in men and women after ten years (Keel et al., 2013). A meta-analysis found that family and peer attitudes were associated with dieting, body dissatisfaction and bulimic symptoms, indicating that everyday interactions can shape youth's body image and eating attitudes both in the short and long term (Marcos et al., 2013). Appearance-related remarks from friends facilitate the relationship between body dissatisfaction and eating pathology (Forney et al., 2012). Pakistani research has also indicated the role of peer's negative appearancerelated feedback positively correlates with body image dissatisfaction in men and women (Akbar et al., 2022; Jalees et al., 2014). Hence, peers have a potent impact on body image and eating attitudes of men and women.

The third source of sociocultural appearance pressures is family. Family pressure may be subtle, like name-calling by a sibling, e.g., fat (Johnson et al., 2015), or it may be more direct, like critical remarks, teasing, fat-shaming or encouraging dieting and restriction mindset to prevent weight gain (Levine et al., 1994). Here, the mother-daughter relationship is paramount for women. Hart (2016) found that mothers' modeling, teasing and criticism predicted disordered eating in college women. Parental comments and body dissatisfaction have shown to predict disordered eating, while poor body image mediated the relationship (Kluck, 2010). Indeed, family experiences play a vital role in fostering a poor body image and shaping eating attitudes.

Another risk factor for eating problems, as supported by literature, is body image dissatisfaction. Body image entails attitudes about one's body, i.e., how one appears to oneself (Cash & Pruzinsky, 1990) and entails three dimensions, i.e., perceptual (perception of weight or size), cognitive-affective (thoughts and feelings about one's body) and behavioral (body-avoidance, body-checking behaviors). Disturbance in the cognitive-affective dimension is called body image dissatisfaction (Thompson et al., 1999). Literature indicates poor image as a risk factor for eating pathology (Chng & Fassnacht, 2016; Mattillion, 2019; Radwan et al., 2018). Collectivistic research also concurs with Western findings, indicating that body dissatisfaction is a potent risk factor for disordered eating (Chaudhari et al., 2017). Here, the self-discrepancy theory (Higgins, 1987) emphasizes body dissatisfaction as underlying eating pathology. It characterizes body dissatisfaction as perceived inconsistency between the actual self and ideal self, which creates negative affect and anxiety, hence encouraging individuals to engage in pathological weight-control practices like food restriction, over-exercising or cosmetic surgery to achieve their ideal bodies and decrease the discrepancy, predisposing them to binge-eating episodes when trying to calm the distress (Vartanian, 2012). Self-discrepancy is an established risk factor for eating pathology (Snyder, 1998).

Evidently, a wealth of empirical evidence indicates that sociocultural pressures and body image dissatisfaction are directly related to eating problems. Therefore, it is plausible that sociocultural influences are indirectly linked to eating problems through body image dissatisfaction. Sociocultural theory (Thompson et al., 1999) provides theoretical underpinnings for the mediating role of body dissatisfaction. It asserts that one's appearance-oriented culture sets and reinforces the societal norms of attractiveness that are communicated through social agents of influence, i.e., family, peers and mass media. Individuals internalize the societal standards of attractiveness, which results in a mismatch between their ideal and real bodies, while they also make social comparisons to the idealized beauty standards. Hence, internalization and appearance comparisons mediate between sociocultural pressures and body dissatisfaction. A disturbed body image then leads to eating pathology to achieve the ideal body.

Furthermore, objectification theory (Fredrickson & Roberts, 1997) also provides theoretical support for the mediating role of poor body image between sociocultural appearance pressures and eating pathology. It posits that cultural (mass media, marketing, television) and interpersonal (eve-teasing, sexual violence, catcalling, ogling)

experiences of objectification push women to internalize societal ideals of beauty, known as self-objectification, which entails body-consciousness, shame and appearance-anxiety. These experiences contribute to body dissatisfaction and eating pathology. Objectification theory has gathered empirical support not only for women but for muscularity concerns in men as well (Daniel & Bridges, 2010), showing its validity for both genders.

Given that eating disorders have the highest death rate of all other psychiatric illnesses (Arcelus et al., 2011) and are associated with negative outcomes like depression, irritability, insomnia, anxiety, low self-esteem (APA, 2013a) warrants an investigation into their etiological pathways, i.e., body image dissatisfaction, fully understanding which will give valuable insights into the culture-specific pathogenesis of disordered eating and help in setting up prevention and early intervention programs. Considering the high cost of treating eating disorders worldwide, early prevention is crucial for Pakistan.

Rationale

Eating disorder prevalence has seen an upward trend in Pakistan from the year 1990 to 2019 (Zahra et al., 2022). However, Pakistani literature on eating disorders is scant; many of the relevant studies in Asia have been conducted in countries like China, Hong Kong, Japan, Malaysia, and South Korea (Thomas et al., 2016). The limited Pakistani studies have predominantly been descriptive in nature and do not explore the sociocultural etiological risk factors of eating disorders, while those that do explore sociocultural factors on body image attitudes and eating pathology have majorly focused on media influence, overlooking other important factors like family's and peers' influences. Moreover, the majority of body image and eating disorders literature universally focuses greatly on women and less on men, as these are typically considered "women's problems." Most notably, the mediating role of body image dissatisfaction between sociocultural pressures and eating disorders has not been explored in Pakistan and warrants further investigation. Therefore, the present study aims to fill this gap by studying the three major sociocultural sources of appearance-related pressures (family, peers, and media) and make a unique indigenous contribution to the global eating disorder literature.

The study holds great clinical significance with regard to body image and eating disorders in Pakistani youth. Given that eating disorders have the highest mortality rate of all psychiatric illnesses (Arcelus et al., 2011), understanding the role that body image plays in

their etiology will give valuable insights and help mental health professionals in setting up effective prevention and intervention programs targeting the family, peers and media messages that lead to body dissatisfaction in youth. The study will also provide future directions for more indigenous research in this area.

Objective

1. To investigate the mediating role of body image dissatisfaction between sociocultural pressures and eating problems in university students.

Hypothesis

1. Body image dissatisfaction (BE-Appearance, BE-Weight) would mediate between sociocultural influences (family, peers, media) and eating problems in university students.

Method

Research Design

A cross-sectional study was designed to assess the mediating role of body image dissatisfaction between sociocultural influences and eating problems in university students.

Sample

The study participants included 181 university students (men = 92; women = 89) selected through convenience sampling. Those between 18 and 25 years of age and only full-time university students were included, whereas married students, those studying privately and those with any kind of intellectual or physical disability were excluded.

Assessment Measures

The following assessment measures were employed in the study.

Demographic Information Sheet

A self-constructed questionnaire was used to assess the demographic characteristics of the participants, including age, gender, marital status, weight, height, ideal weight, education, working status, monthly household income and mass media usage.

Social Attitudes Towards Appearance Questionnaire (SATAQ-4)

Sociocultural Attitudes Towards Appearance Questionnaire-4 (SATAQ-4) (Schaefer et al., 2015) is a 22-item self-report scale with a 5-point Likert-type scale from 1 (definitely disagree) to 5 (definitely agree). Items are averaged to compute a total score. Higher scores indicate higher internalization of the sociocultural ideals of appearance and greater appearance-related pressures to reach those ideals. It has five subscales: Internalization: Thin/Low Body Fat, Internalization: Muscular/Athletic, Pressures: Family, Pressures: Media and Pressures: Peers. The Pressures: Family subscale contains four items (items 11-14). The Pressures: Peers subscale contains four items (items 15-18). Finally, the Pressures: Media subscale contains four items (items 19-22). The Cronbach's alphas of subscales range between $\alpha=.82$ to $\alpha=.95$ for women and between $\alpha=.75$ to $\alpha=.93$ for men (Schaefer et al., 2015).

In line with the study's purpose, the three Pressure subscales of SATAQ-4 (Family, Peers, Media) were used, while the remaining two subscales, i.e., Internalization: Thin/Low Body Fat and Internalization: Muscular/Athletic were excluded with authors' permission.

Body-Esteem Scale for Adults and Adolescents (BESAA)

Body-Esteem Scale for Adolescents and Adults (BESAA) (Mendelson et al., 2001) is a 30-item self-report questionnaire with a 5-point Likert-type scale from 0 (never) to 4 (always). It has 3 subscales. BE—Appearance (general feelings about appearance) has 10 items (e.g., "I worry about the way I look") with α = .92. BE—Weight (weight satisfaction) has eight items (e.g., "Weighing myself depresses me") with α = .94 (Mendelson et al., 2001). BE—Attribution (evaluations attributed to others about one's body and appearance) has five items (e.g., "Other people consider me good looking") with α = .81 (Mendelson et al., 2001). Subscale scores are determined by averaging the subscale items. High scores on subscales indicate higher body-esteem on that dimension.

Eating Attitude Test (EAT-26)

Eating Attitudes Test-26 (EAT-26) (Garner et al., 1982) is a 26-item self-report questionnaire with a 6-point Likert-type scale that ranges from "always" to "never" where higher scores indicate more eating disorder symptomology. EAT-26 has 3 subscales, namely dieting (e.g., "I am terrified about being overweight"), bulimia and

food preoccupation (e.g., "I find myself preoccupied with food") and oral control (food intake mode and its control) (e.g., "I avoid eating when I am hungry"). Subscale scores are determined by adding the subscale items, while all subscales are added to get EAT-26 total score, which ranges from zero to 78. A total score of 20 or above indicates an eating disorder risk and warrants further clinical investigation (e.g., clinical interview) for diagnosis. Reliability coefficients have been reported as $\alpha = .82$ (Saleem et al., 2014) and $\alpha = .86$ (Sanlier et al., 2017).

Procedure

Formal permission was taken from the authors of the instruments and the respective authorities in the university. Each participant was conveniently sampled and was sent the hyperlink for the online questionnaires (created on Google Forms) through Whatsapp. Participants were informed about the generic purpose of the study. They were assured about confidentiality, their right to leave and the use of their data for research. They gave their informed consent to participate and filled out the demographic information sheet, followed by the three questionnaires. Data were analyzed in Statistical Package for Social Sciences (SPSS) and mediation analysis was conducted through Hayes' *PROCESS*.

Ethical Considerations

Formal permissions to conduct the study were taken from the thesis supervisor, and the authors of the instruments before conducting the research. Then, participants were assured about the confidentiality of their data, their right to withdraw at any time and that their information would only be used for research purposes. Informed consents were taken from participants on their voluntary participation prior to data collection.

Results

Mediation analysis was conducted by using Hayes' *PROCESS* macro to study the mediating role of body image dissatisfaction (BE-Appearance, BE-Weight) between sociocultural influences (family, peer, media) and eating problems in university students. Results are shown in Table 1 and Table 2.

Table 1Mediation Analyses between Sociocultural Influences (Family, Peer, Media) and Eating Problems through Body Image Dissatisfaction (BE-Appearance) (N=181)

	Consequent						
Antecedent	BE-Appearance (M)			Eating Pr	roblems (Y)		
	β	SE		β	SE		
Constant	3.43***	.17		1.00***	.17		
Family Influence (X) a	36***	.06	c	.24***	.89		
BE-Appearance (M)	-	-	b	37***	1.04		
	R^2	= .13		$R^2 = .26$			
	F(1,179)	= 26.27,		F(2,178) = 31.11,			
	<i>p</i> <	.001			< .001		
Constant	3.07***	.15		25.83***	.3.61		
Peer Influence (X) a	24**	.06	c	.31***	.78		
BE-Appearance (M)		-	b	38***	.98		
		= .06		$R^2 = .30$			
	F(1,179) = 10.64,			F(2,178) = 37.78			
	<i>p</i> < .01			p < .001			
Constant	3.47***	.14		26.57***	4.31		
Media Influence (X) a	44***	.05	c'	.24**	.74		
BE-Appearance (M)	-	-	b	35***	1.09		
	R^2	= .19	•	$R^2 = .26$			
	F(1,179) = 41.89,			F(2,178) = 30.47,			
	<i>p</i> <	.001		<i>p</i> < .001			

Note. β = Standardized regression coefficient. **p < .05, ***p < .000.

Table 2 *Mediation Analyses between Sociocultural Influences (Family Influence, Peer Influence, Media Influence) and Eating Problems through Body Image Dissatisfaction (BE-Weight) (N = 181)*

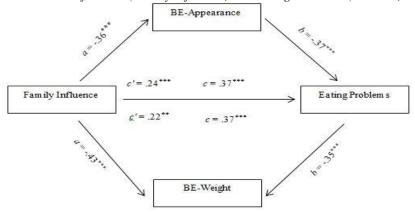
0 7 0	3	,	0 / 1				
	Consequent						
Antecedent	BE-Weight (M)			Eating Problems (Y)			
	β	SE		β	SE		
Constant	3.45***	.19		22.49***	4.10		
Family Influence (X) a	43***	.07	c	.22**	.93		
BE-Weight (M)	-	-	b	35***	.96		
	$R^2 =$	$R^2 = .19$		$R^2 = .24$			
	F(1,179) = 41.09 , p < .001		F(2,178) = 27.39,				
				p < .001 Continued			

	Consequent						
Antecedent	BE-Weight (M)			Eating Problems			
Amecedent	BE-Weight (M)				(Y)		
	β	SE		β	SE		
Constant	3.00***	.17		21.95***	3.36		
Peer Influence (X) a	31***	.06	c'	.29***	.81		
BE-Weight (M)	-	-	b	35***	.89		
	$R^2 =$	$R^2 = .10$			$R^2 = .27$		
	F(1,179)	F(1,179) = 18.88,		F(2,178) = 33.00,			
	p <	p < .001		p < .001			
Constant	3.40***	.16		22.80***	3.96		
Media Influence (X) a	48***	.05	c'	.23**	.77		
BE-Weight (M)	-	-	b	33***	.99		
	$R^2 = .23$ F(1,179) = 53.98,			$R^2 = .24$ F(2,178) = 27.62,			
	p < .001			p < .001			

Note. β = Standardized regression coefficient.

The results indicated that the indirect effect of family influence on eating problems through BE-appearance was significant, $\beta=.13$, 95% CI [.07, .21]. Therefore, BE-appearance significantly mediated between family influences and eating problems in university students. Moreover, the indirect effect of family influence on eating problems through BE-weight was found to be significant, $\beta=.15$, 95% CI [.08, .23]. Therefore, BE-weight significantly mediated between family influence and eating problems in university students (see Figure 1).

Figure 1Body Image Dissatisfaction (BE-Appearance, BE-Weight) Mediating between Sociocultural Influences (Family Influence) and Eating Problems (N = 181)

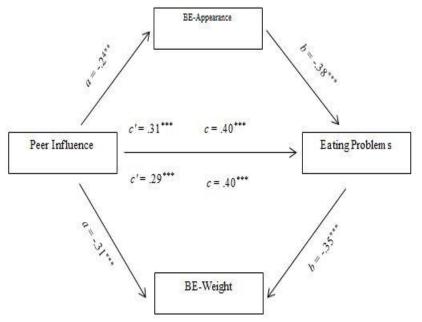


Note. a, b, c and c' = Standardized regression coefficients.

^{**}*p* < .05, ****p* < .000.

The results also indicated that the indirect effect of peer influence on eating problems through BE-appearance was significant, β = .09, 95% CI [.04, .15]. Therefore, BE-appearance significantly mediated between peer influences and eating problems. Furthermore, the results indicated that the indirect effect of peer influence on eating problems through BE-weight was significant, β = .11, 95% CI [.05, .17]. Therefore, BE-weight significantly mediated between peer influence and eating problems in university students (see Figure 2).

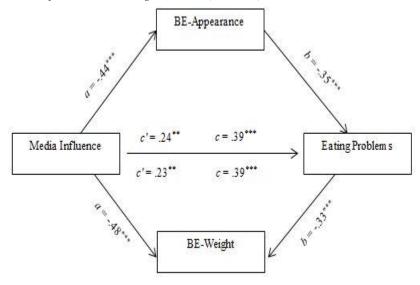
Figure 2
Body Image Dissatisfaction (BE-Appearance, BE-Weight) Mediating between Peer Influence and Eating Problems (N = 181)



Note. a, b, c and c' = Standardized regression coefficients.

The results indicated that the indirect effect of media influence on eating problems through BE-appearance was significant, $\beta=.15$, 95% CI [.08, .24]. Therefore, BE-appearance significantly mediated between media influence and eating problems in university students. The results indicated that the indirect effect of media influence on eating problems through BE-weight was significant, $\beta=.16$, 95% CI [.07, .26]. Therefore, BE-weight significantly mediated between media influence and eating problems in university students (see Figure 3).

Figure 3
Body Image Dissatisfaction (BE-Appearance, BE-Weight) Mediating between Media Influence and Eating Problems (N = 181)



Note. a, b, c and c' = Standardized regression coefficients.

Discussion

Young adulthood is a time of life that entails transitioning from adolescence to adulthood and poses a plethora of demands on university students, including physical, emotional and social challenges to cope with (Saleem et al., 2013). The multi-faceted nature of biopsychosocial changes can put tremendous pressure on students to take on adult responsibilities while managing their everyday tasks. Indeed, young adulthood (16-25 years) is believed to be a vulnerable age for developing long-term psychological problems (Kessler et al., 2005). Among the numerous mental health challenges afflicting youth, eating problems stand out to be the most alarming. Eating problems have recently become a universal occurrence and are no longer believed to be only limited to the Western world, with global prevalence rates having doubled from 3.4% to 7.8% since the beginning of the 21st century (Galmiche et al., 2019). Therefore, the present research pertinently set out to investigate the underlying sociocultural mechanisms that can lead to or protect youth from eating pathology.

Particularly, the present study aimed to explore whether body dissatisfaction played any explanatory role between sociocultural appearance pressures (from family, peers and media) and disordered eating in college-age men and women. It was hypothesized that body image dissatisfaction would significantly mediate this relationship. The results offered support for the hypothesis, i.e., BE-Appearance and BE-Weight were found to be significant mediators. The results can be explained by potential mediating pathways between sociocultural influences and body dissatisfaction, i.e., it's plausible that sociocultural pressures to conform to the societal standards may have led participants to internalize the thin-ideal leading to poor body image, as shown by Bair et al. (2012) and eventually eating disturbances. Interestingly, the findings revealed that the risk factors for eating pathology in a collectivistic culture concur with those from individualistic cultures, which lends support for the "Westernization" hypothesis of eating disorders (Pike & Dunn, 2015), meaning that disordered eating is a reflection of increasingly normalized western ideals of beauty in the third world.

Notably, one of the most interesting findings of the current research is that appearance-related pressures from media had the strongest indirect effect on eating problems through weight-related dissatisfaction, followed by appearance-related dissatisfaction. Indigenous research has found that women who watched dieting-related TV programs were more likely to diet and become obsessed with food (Abideen et al., 2011). Another study linked media, family influence and poor body image with eating disorders in young adults (Radwan et al., 2018). Here, the social comparison theory (Festinger, 1954) aptly explains media's influence on body image and eating attitudes in youth, i.e., individuals comparing themselves (upward social comparison) to media's portrayals of idealized bodies can develop a sense of inadequacy and unattractiveness, which drives them to resort to disordered eating to change their bodies. Empirical evidence supports the role of social comparisons between appearance pressures and body dissatisfaction, as shown by Rodgers et al. (2011), eventually ending in eating disturbances. In this regard, social cognitive theory (Bandura, 2009) also implicates mass media in conveying unrealistic portrayals of perfect bodies and normalizing dysfunctional body image attitudes and eating problems.

In addition to media influence, appearance-related pressures from family were found to have a considerable impact on eating disturbances through weight-related and appearance-related body dissatisfaction. There's no shortage of evidence for family's role in facilitating maladaptive body image and eating attitudes. This is in line with a previous study done by Chng and Fassnacht (2016), where body image dissatisfaction was found to be a mediator between parental negative comments and disordered eating behaviors. Furthermore, maternal criticism, teasing and weight-related modeling have been linked to eating pathology in university-age women (Hart, 2016), highlighting the significance of family environment in eating pathology. Family's undeniable influence is reflected in the fact that it holds value for adolescent and young adults' identity formation, i.e., parents' opinions matter to their offspring (Dahill et al., 2021); they provide gender-role models for offspring's body image and eating attitudes (Rodgers et al., 2011). Understandably, parents' direct or indirect criticism, body-shaming or harsh messages puts youth at risk for negative body image and pathological eating behaviors.

Lastly, there was also a significant but weaker indirect effect of peer influence on eating problems through weight and appearance-related body dissatisfaction. Previous research has established a link between peer influence and eating problems (Al-sheyab et al., 2018). Social identity theory (Tajfel & Turner, 1979) pertinently elaborates that a person's in-group includes individuals sharing the same attitudes and behaviors; peers tend to be the most important in-group for young adults. Hence, participants' body image and eating attitudes were perhaps a reflection of conforming to their in-group's norms.

Conclusion

The present study provided evidence for a sociocultural model of appearance-related pressures on body image attitudes and eating problems, with special emphasis on body dissatisfaction. To the authors' knowledge, this study was the first attempt to explore the mediating role of body image dissatisfaction between sociocultural appearance-related pressures and eating problems among university students in the Pakistani context. The findings have added to the general consensus of the global literature that parents, peers and media are the key players in shaping young adults' body image attitudes and predispose them to eating disorders by making them feel dissatisfied with their bodies. Hence, body image attitudes are important mediating mechanisms for developing maladaptive weight-control practices, contributing to potentially life-threatening eating disorders for men and women. Therefore, young adults' body image attitudes as well as pressures and criticism from family, peers and media must be taken into consideration when developing prevention and intervention programs.

Implications

Firstly, media literacy programs are needed for youth to make them mindful users of media and to empower them against societal pressures to achieve the ideal standards of beauty. Furthermore, youth should be equipped with self-help skills like emotion regulation, eating self-efficacy and critical thinking. Training should be given to recognize maladaptive perfectionism and self-objectification, which often leads to poor body image. Parents also need to be psychoeducated on the impact of their words and behaviors on young adults' mental health. Lastly, social media awareness campaigns should be started on body image and eating disorders to counter diet culture and body-shaming ubiquitous on these platforms.

References

- Abideen, Z. U., Latif, A., Khan, S., & Farooq, W. (2011). Impact of media on development of eating disorders in young females of Pakistan. *International Journal of Psychological Studies*, *3*(1), 122-147. doi.org/10.5539/ijp s.v3n1p122
- Akbar, M., Nasir, F., Aslam, M., & Qasim, I. (2022). Effect of family pressure, peer pressure, and media pressure on body image dissatisfaction among women. *Journal of Business and Social Review in Emerging Economies*, 8(2), 325-330.
- Al-sheyab, N. A., Gharaibeh, T., & Kheirallah, K. (2018). Relationship between peer pressure and risk of eating disorders among adolescents in Jordan. *Journal of Obesity*, 2018, 1-8. doi.org/10.1155/2018/7309878
- American Psychiatric Association. (2013a). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, American Psychiatric Association.
- Arcelus, J., Mitchell, A. J., Wales, J., & Nielsen, S. (2011). Mortality rates in patients with anorexia nervosa and other eating disorders. *Archives of General Psychiatry*, 68(7), 724-732. doi.org/10.1001/archgenpsychiatry. 2011.74
- Ata, R. N., Schaefer, L. M., & Thompson, J. K. (2015). Sociocultural theories of eating disorders. *The Wiley handbook of eating disorders*, 269-282
- Schaefer, L. M., Burke, N. L., Thompson, J. K., Dedrick, R. F., Heinberg, L. J., Calogero, R. M., ... & Swami, V. (2015). Development and validation of the sociocultural attitudes towards appearance questionnaire-4 (SATAQ-4). *Psychological assessment*, 27(1), 54-67.
- Bair, C. E., Kelly, N. R., Serdar, K. L., & Mazzeo, S. E. (2012). Does the Internet function like magazines? An exploration of image-focused media, eating pathology, and body dissatisfaction. *Eating Behaviors*, 13(4), 398-401. doi.org/10.1016/j.eatbeh.2012.06.003

- Bandura, A. (2009). Social cognitive theory of mass communication. In J. Bryant & M. B. Oliver (Eds.), *Media Effects: Advances in Theory and Research* (3rd ed.), (pp. 94-124). Routledge.
- Cash, T. F., & Pruzinsky, T. E. (1990). *Body images: Development, deviance, and change*. Guilford Press.
- Chaudhari, B., Tewari, A., Vanka, J., Kumar, S., & Saldanha, D. (2017). The relationship of eating disorders risk with body mass index, body image and self-esteem among medical students. *Annals of Medical and Health Sciences Research*, 7(3), 144-149.
- Chng, S. C. W., & Fassnacht, D. B. (2016). Parental comments: Relationship with gender, body dissatisfaction, and disordered eating in Asian young adults. *Body Image*, *16*, 93-99. doi.org/10.1016/j.bodyim.2015.12.001
- Dahill, L. M., Touyz, S., Morrison, N. M., & Hay, P. (2021). Parental appearance teasing in adolescence and associations with eating problems: A systematic review. *BMC Public Health*, *21*(1), 1-13. doi.org/10.1186/s12889-021-10416-5
- Daniel, S., & Bridges, S. K. (2010). The drive for muscularity in men: Media influences and objectification theory. *Body Image*, 7, 32-38. doi.org/10.10 16/j.bodyim.2009.08.003.
- Festinger, L. (1954). A theory of social comparison processes (Human relations, Bd. 7). Bobbs-Merrill.
- Forney, K. J., Holland, L. A., & Keel, P. K. (2012). Influence of peer context on the relationship between body dissatisfaction and eating pathology in women and men. *International Journal of Eating Disorders*, 45(8), 982-989. doi.org/10.1002/eat.22039.
- Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, 21(2), 173-206. doi.org/10.1111/j.1471-6402.1997.tb00108.x
- Galmiche, M., Déchelotte, P., Lambert, G., & Tavolacci, M. P. (2019). Prevalence of eating disorders over the 2000-2018 period: A systematic literature review. *The American Journal of Clinical Nutrition*, 109(5), 1402-1413. https://doi.org/10.1093/ajcn/nqy342
- Garner, D. M., Olmsted, M. P., Bohr, Y., & Garfinkel, P. E. (1982). The eating attitudes test: Psychometric features and clinical correlates. *Psychological medicine*, *12*(4), 871-878
- Grogan, S. (2016). Body Image: Understanding body dissatisfaction in men, women and children (3rd ed.). Routledge.
- Hart, B. N. (2016). *Maternal Influences on Disordered Eating in College- Aged Women* (Publication No. 10128992) [Master's thesis, Southern Illinois University at Edwardsville]. ProQuest Dissertations and Theses Database.
- Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. *Psychological Review*, *94*(3), 319-340.

- Jalees, T., de Run, E. C., & Tariq, H. (2014). A Structural Equation Model: Socio Cultural Influence on Body Image of Pakistani Consumers. *Market Forces*, 9(1), 1-14.
- Johnson, S. M., Edwards, K. M., & Gidycz, C. A. (2015). Interpersonal weight-related pressure and disordered eating in college women: A test of an expanded tripartite influence model. *Sex Roles*, 72(1), 15-24. doi.org/10.1007/s11199-014-0442-0
- Keel, P. K., Forney, K. J., Brown, T. A., & Heatherton, T. F. (2013). Influence of college peers on disordered eating in women and men at 10-year follow-up. *Journal of Abnormal Psychology*, 122(1), 105-110. doi.org/10.1037/a0030081
- Kessler, R. C., Berglund, P., Demler, O., Jin, R., Merikangas, K. R. & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Archives of General Psychiatry, 62(6), 593-602. doi.org/10.1001/archpsyc.62.6.593
- Khan, A. N., Khalid, S., Khan, H. I., & Jabeen, M. (2011). Impact of today's media on university student's body image in Pakistan: A conservative, developing country's perspective. *BMC Public Health*, 11(1), 1-8. doi.org/10.1186/1471-2458-11-379
- Kluck, A. S. (2010). Family influence on disordered eating: The role of body image dissatisfaction. *Body Image*, 7(1), 8-14. doi.org/10.1016/j.bodyim .2009.09.009
- Levine, M. P., & Smolak, L. (1998). The mass media and disordered eating: Implications for primary prevention. In W. Vandereycken & G. Noordenbos (Eds.), *Studies in eating disorders: An international series.*The prevention of eating disorders (pp. 23-56). New York University Press
- Levine, M. P., Smolak, L., & Hayden, H. (1994). The Relation of Sociocultural Factors to Eating Attitudes and Behaviors among Middle School Girls. *The Journal of Early Adolescence*, *14*(4), 471-490. doi.org10.1177/0272431694014004004
- Marcos, Y. Q., Sebastián, M. Q., Aubalat, L. P., Ausina, J. B., & Treasure, J. (2013). Peer and family influence in eating disorders: A meta-analysis. *European Psychiatry*, 28(4), 199-206. doi.org/10.1016/j.eurpsy. 2012.03.005
- Mattillion, S. (2019). *Body Image Dissatisfaction and Disordered Eating Behaviors among NIU Students* (Publication No. 27545127) [Master's thesis, Northern Illinois University]. ProQuest Dissertations and Theses Database.
- Mendelson, B. K., Mendelson, M. J., & White, D. R. (2001). Body-esteem scale for adolescents and adults. *Journal of Personality Assessment*, 76(1), 90-106

- Pike, K. M., & Dunne, P. E. (2015). The rise of eating disorders in Asia: A review. *Journal of Eating Disorders*, 3(1), 1-14. doi.org/10.1186/s40337-015-0070-2
- Radwan, H., Hasan, H. A., Najm, L., Zaurub, S., Jami, F., Javadi, F., Deeb, L. A., & Iskandarani, A. (2018). Eating disorders and body image concerns as influenced by family and media among university students in Sharjah, UAE. Asian Pacific Journal of Clinical Nutrition, 27(3), 695-700.
- Rodgers, R., Chabrol, H., & Paxton, S. J. (2011). An exploration of the tripartite influence model of body dissatisfaction and disordered eating among Australian and French college women. *Body Image*, 8(3), 208-215. doi.org/10.1016/j.bodyim. 2011.04.009
- Saleem, M., Sattar, S., Zafar, M., & Bin Ismail, R. (2014). Link between eating disorders and depression. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 8(3), 925-937.
- Saleem, S., Mahmood, Z., & Naz, M. (2013). Mental Health Problems in University Students: A prevalence study. *Frontier Women University Journal of Social Sciences*, 7(2), 124-130.
- Sanlier, N., Varli, S. N., Macit, M. S., Mortas, H., & Tatar, T. (2017). Evaluation of disordered eating tendencies in young adults. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 22(4), 623-631. doi.org/10.1007/s40519-017-0430-9
- Santarossa, S., & Woodruff, S. J. (2017). #SocialMedia: Exploring the Relationship of Social Networking Sites on Body Image, Self-Esteem, and Eating Disorders. *Social Media* + *Society*, *3*(2), 1-10. doi.org/10.11 77/2056305117704407
- Smink, F. R. E., Hoeken, D., & Hoek, H. W. (2012). Epidemiology of Eating Disorders: Incidence, Prevalence and Mortality Rates. *Current Psychiatry Reports*, 14(4), 406-414. doi.org/10.1007/s11920-012-0282-y
- Stice, E., & Shaw, H. (2003). Prospective relations of body image, eating, and affective disturbances to smoking onset in adolescent girls: How Virginia slims. *Journal of Consulting and Clinical Psychology*, 71(1), 129-135. doi.org/10.1037/0022-006X.71.1.129
- Stice, E., Cameron, R., Killen, J. D., Hayward, C., & Taylor, C. B. (1999). Naturalistic weight reduction efforts prospectively predict growth in relative weight and onset of obesity among female adolescents. *Journal of Consulting and Clinical Psychology*, 67(6), 967-974.
- Stice, E., Hayward, C., Cameron, R., Killen, J. D., & Taylor, C. B. (2000). Body image and eating related factors predict onset of depression in female adolescents: A longitudinal study. *Journal of Abnormal Psychology*, 109(3), 438-444. doi.org/10.1037/0021-843X.109.3.438
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In M. J. Hatch & M. Schultz (Eds.), *Organizational identity: A* reader (pp. 56-65). Oxford University Press.

- Thomas, J. J., Lee, S., & Becker, A. E. (2016). Updates in the epidemiology of eating disorders in Asia and the Pacific. *Current Opinion in Psychiatry*, 29(6), 354-362. doi.org/10.1097/YCO.0000000000000288
- Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). Exacting beauty: Theory, assessment, and treatment of body image disturbance. American Psychological Association.
- Vartanian, L. R. (2012). Self-Discrepancy Theory and Body Image. *Encyclopedia of Body Image and Human Appearance*, 2(1), 711-717. doi.org/10.1016/b978-0-12-384925-0.00112-7
- Zahra, S. M., Jha, R. P., Safdar, M., Khalid, M. Z., Khalid, W., & Ranjha, M. M. A. N. (2023). Trends in the burden of eating disorders in Pakistan over the past three decades: A join point regression analysis. *Annals of Indian Psychiatry*, 7(2), 140-151

Received 15 October 2022 Revision received 04 October 2023