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Measuring Body Image Guilt and Shame: Gender and Disordered Eating Behaviors in Perspective

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Abstract

Objectives. The goal of the current study was to investigate the association between bodily perception guilt together with shame, and aberrant eating patterns in adolescents. Differences across gender in the proposed relationship were also studied. Moderating role of gender between the study variables was also explored.

Method. Disordered Eating Behavior Scale (Muazzam & Khalid, 2011), Body Image Guilt and Shame Scale (Thompson et al., 2003), with a demographic table was employed for collecting data among 316 teenagers using convenience sampling method that included educational institutes of District Rawalpindi and Islamabad. Phase I of the study's four phases comprises the conversion and modification of Body Image Guilt and Shame Scale (Thompson et al., 2003).

Results. The results in the present study indicated that aberrant eating behaviors are importantly positively connection to bodily perception guilt and shame. According to the results, boys experience more bodily perception guilt and shame as compared to girls.

Conclusion. The present study concluded that body satisfaction should be promoted among adolescents in order to prevent them from body related guilt and shame, and disordered eating behaviors that consequently enhances their psychological well-being.

Keywords: Body dissatisfaction, body image guilt and shame, disordered eating behavior, puberty, adolescents.

Introduction

Adolescence is a dynamic stage of human development accompanied by transition between childhood and adulthood, accompanied by intense emotional, cognitive, social, and physical changes that present challenges to adolescents, families, educators, health professionals, and communities. During adolescence, sexual maturation and pubertal development occurs and hormonal changes accelerate the physical growth. Young adolescents are preoccupied with physical fluctuations of bodily changes and how others' perceive them. These changes may occur earlier and later in adolescence period, but ultimately these occur (Gaudineau et al., 2010; Ge et al., 2001).

Due to these dramatic biological changes associated with puberty can affect their psychosocial development. Also, an intensified preoccupation with body image and an increased awareness regarding sexuality are necessary psychosocial tasks during adolescence. Among adolescents, especially, among girls, dramatic variations in body size and shape can cause emergence of negative self-image and eating problems. While, among boys, an apparent delay in developmental processes and sex development may cause a person to acquire low self-esteem and a negative body image (Fuchs, 2003; Wong et al., 1995). Weight dissatisfaction because of body fat accumulation in certain areas is prevalent leading to a risk of increased behaviors that are harmful to health such as frequent dieting, extreme calories limitation, use of diet laxatives or pills,extreme distortions of body image, and disordered eating behaviors (Gong & Heald, 1994; Seidler, 2000). The United States Department of Health and Human Service (2004) explains eating disorders to eating habits that are troublesome such as less extreme forms of dieting, overeating, or purging or occur sometimes as compared to one that requires to fulfill the diagnostic requirements for the eating problems DSM V.

Associated with disordered eating are body image concerns. Body image is one's body dynamic perception, how it feels, looks, and moves. It is formed by physical sensations, emotions, perception, and is not fixed; but in relation to physical experience, mood, and environment, can vary (Stang & Story, 2005). Adolescents experience body dissatisfaction due to associated physical changes with puberty, where girls experience menstruation and an increase in body fat in areas of breast, hips, and stomach (Abraham & O'Dea, 2001). Among adolescent girls, because of increased body fat, body image apprehensions have become so prevalent that it becomes a probable part of puberty (Kater, Rohwer, Londre, 2002). On the other hand, boys are more expected to increase their body size and want to have a masculine V-shaped physique with wide shoulders (McCabe & Riccardelli, 2004). Boys' popularity is defined by athletic abilities (Coyl, 2009). Shape and weight dissatisfaction may lead to unhealthy exercise (Holland et al., 2014), and substance use, diuretics pills, and laxatives (Stang & Story, 2005). One of the potential predictor of eating disturbances is an individual's body image (Cash & Pruzinsky, 2002). Body dissatisfaction is a significant contributor to the emergence of clinical disorders of eating (Cooley & Toray, 2001a) and also subtle eating disorders and eating patterns (Cooley & Toray, 2001b).

Additionally, adolescence is escorted by an interest in sexuality that causes them to feel that their physical appearance is vital than it was during childhood (Baumeister et al., 2001). *Shame* is an emotion stemming from public disclosure of some inadequacy or transgression, however, *guilt*, is viewed as an experience that is 'private' comprising one's own conscience pangs (Tangney, 1996, p. 742). *Shame*, is associated to depression and can be destructive. Smith (2010) studied severely depressed patients, he noted that most of their memories had more themes of shame than guilt themes. Some data furthermore showed that guilt and shame proneness were linked also to depression. A common focus of shame in adolescence is one's body (Davison & McCabe, 2006). About 30% of boys and 60% of girls say they would like to alter their bodies' shape or size (Presnell et al., 2004).

Shame converts to guilt when the norms of society as one's own feelings of value are assumed and when self-condemnation is expected by exposure to public. The person with guilt feels depressed, dejected, head bowed, and lies on his chest an oppressing heavy weight. Guilt unlike shame does not ease like it does outside of the shameful condition (Fuchs, 2003). Shame-proneness certainly has been associated with numerous psychopathology forms including depression, anxiety, and eating disorders (Mills, 2005; Tangney & Dearing, 2002). During adolescence transition, girls predominantly become vulnerable to shame experiences (Walter & Burnaford, 2006). For increased cognitive and physical changes, cognitive development concurrently enables heightened capacities for social-comparison and self-evaluation. Girls during this period of self-focus and quick change are prone, particularly, to engage in negative self-evaluations, that is a shame-proneness characteristic (Rudolph et al., 2006).

Particularly, girls get extremely aware of their appearance and considerably invest emotional and cognitive resources in relation to physical body (Cash & Pruzinski, 2002). At extreme, in order to alter body parts, resort to cosmetic surgeries. These procedures as a choice are considered, chiefly, when higher levels of body shame is experienced by a person and uses appearance fixing strategy to cope with dissatisfaction and to match with ideal standards (Tyler, 2013). Rudd and Lennon (2000) showed that although teens are aware of unhealthiness of their acts, but due to conform to social expectation of beauty, they ignore this risk. Also, holding the concept that one has control over one's body, if they do not adhere to their regimen for handling appearance, they could feel guilty (Rudd et al., 2000).

The situation of being seen and shame is of significance especially for the pathology of body image or external body in certain disorders such as erythrophobia, body dysmorphic disorder, or social phobia. In puberty they are obvious for the first time, when changes take place in body and gain a new external facet through the developing sexual sphere (Seidler, 2000). Body dysmorphic disorder thus is linked closely to shame. Cosmetic surgery is soughted often, but as a rule does not alter the lack of severe self-esteem in which the disorder is ingrained (Philips, 2000). It has been observed that among teenage girls (Johnson & Wardle, 2005; Stice, 2001), college women (Cooley & Toray, 2001a) and middle-aged women (Tiggemann & Lowes, 2002), body image guilt and shame leads to eating pathology (Stice et al., 2002; Wertheim et al., 2001). In Pakistan, however, not much research has been conducted to study body image guilt and shame, hence, the present study addresses this gap.

Theoretical perspective supporting the idea of these interrelated issues in adolescent is addressed by a study that established mediated and direct links of racist discrimination and objectification theory constructs with depressive symptomatology and eating disorder in 180 Latina women. Path analysis showed that internalization of sociocultural attractiveness standards were allied greater depressive symptoms and eating disorder in part by way of the mediating functions of body scrutiny and shame towards one's body, and body scrutiny was linked with greater depressive symptoms and eating problems through the mediator of body shame (Van et al., 2007). Objectification theory (Fredrickson & Roberts, 1997) thinks that many women are considered as objects, subjected to sexual objectification and serves as an object to be appreciated for its use by others. SO (self-objectification) occurs when the body or parts of a woman are detached and singled out from her as an individual and she mainly is viewed as a physical item of sexual desire of males. Self-objectification of women according to objectification theory is expected to contribute to psychological health issues that influence women extremely (i.e., depressive disorders, eating problems, and dysfunctional sexual behaviour) via two main paths. The first is overt and direct path and involves experiences of self-objectification. The second is subtle and indirect path and

involves women's self-objectification or internalization of self-objectification experiences (Fredrickson & Roberts, 1997).

Although these issues are usually prevalent during puberty among both girls and boys, a researcher for the last 14 years as a junior high coach has found out that during adolescence most studies and programs concentrating on body image satisfaction are for girls. There is a lack of realization that adolescent boys are getting sidelined and that for adolescent boys, programs are needed as they also are worried about their body size and shape and may face body image disturbances (Gupta, 2011). The present study therefore, included both girls and boys and their body mage concerns have been examined in order to address the literature gap. One of the main causes of disordered eating behaviours is an incorrect view of one's body that leads to a preoccupation with food. Disordered eating behaviors that are leading towards aberrant eating pattern can have negative e.g., stressful, harmful and even life-threatening effects (APA, 2000).

Research examining the relationship between disordered eating and puberty in boys is sparse. Studies however, have proposed that among boys, early maturation is linked with fewer attention problems and more favorable social outcomes, but is connected also to externalizing behaviors. Results are inconsistent for disordered eating. Retrospective and cross-sectional reports show that boys who, as compared to their peers, exhibit higher degrees of problematic eating behaviours when they mature sooner. Boys, who in contrast to males who say they matured sooner than their contemporaries, who indicate that pubertal development was either on time or late exhibit increased body dissatisfaction. report that their pubertal development was late or on time show higher body dissatisfaction compared with boys reporting maturing earlier than their peers (Kaltiala-Heino et al., 2001). It is difficult in boys to examine the relationship between the age of a pubertal occurrence is known as pubertal timing. and disordered eating. Contrary to girls, there are no lone pubertal timing metric that corresponds to menstruation time. Earlier ages at which ejaculations begin or oigarche however, have indicated a link with the symptoms of bulimia. There had been no connection between early-onset and late-onset oigarche and bulimic symptomatology. At this time, it is unknown if puberty has the same relationship with the chance for eating disorders in males as it occurs among girls (Zehr et al., 2007). Therefore, the goal of the current study was to focus on the eating patterns among boys as well as to address the gap.

Following are the hypotheses of the study:

1. There will be a positive relationship between adolescents' problematic eating patterns, self-image guilt, and humiliation.
2. Girls have higher level of guilt of body image and shame, along with the disordered eating behaviors as compared to boys.

Method

Sample

In order to validate the parameters used in this investigation, validation was carried out through convenient sampling; data were collected from private and public schools/colleges in the District Rawalpindi and Islamabad (n = 316). However, no support was available from Oxfam facilitators in arranging the sample and data collection in the validation phase. The gender distribution for this sample consisted of 169 girls and 147 boys. The inclusion criteria included those enrolled in schools with age range of 13 till 18 years (M = 15.83; SD = 1.66).

Table 1

Mean, Standard Deviation, Frequency, and Percentage along Demographic Variables (N = 316)

Demographics	Boys (n = 147)		Girls (n = 169)			
	f	%	*f*	%	*M*	*SD*
Age	-	-	-	-	15.83	1.66
Education	-	-	-	-	10.05	1.84
Family size	-	-	-	-	4.70	2.04
Family Income	-	-	-	-	58588.18	123800.03
Family System						
Nuclear	79	53.7	114	67.5	-	-
Joint	51	34.7	42	24.9	-	-
Missing	17	11.6	13	7.7	-	-

Note. Table 1 shows the sample distribution of validation study.

Assessment Measures

Demographic Sheet. A demographic sheet was created with details on gender, age, and household income**.** A demographic sheet was developed including information regarding gender, age, family's income, occupation, number of siblings, school attendance, level, family structure, and size of the family, occupation of mother and father, education level of mother and father, province, residence district, participation in awareness campaigns, access to social support and sources of knowledge about puberty, and religion.

Body Image Guilt and Shame Scale (BIGSS). This measure is a particular, based on scenario, body-related based questionnaire It suggests a tendency to feel guilty and ashamed about body and attitudes related to the body. Established by Thompson et al. (2003) and transcribed in the current study. It comprises 15 items based on scenario with response categories ranging from not likely (1) to highly likely (5) for the first four response choices. It consists of 2 subscales particularly physique guilt, and Body Image Shame. Typically, the scale is divided into four subscales: Externalization of Blame, Guilt, Shame, and Detachment-Unconcern. There are no items for a reverse score. In the current study, externalisation/ rationalisation and detachment served as filler items, with just the Shame and Guilt subscales being assessed. Body Image Guilt has a reliability of .88, and Body Image Shame has a reliability of .91 in the original scale (Thompson et al., 2003). Large score shows higher levels of guilt and shame. This scale was transcribed and adapted in Urdu language in the present research.

BIGSS, Translation and adaptation. In this phase, the standard instructions for translation and adaptation were accompanied (Sousa & Rojjanasrirat, 2010).

Step 1: Forward translation. Original English version was translated into target language that is, Urdu language. Three bilingual translators (two M.Phil. and one PhD scholar) had knowledge regarding the terminologies and constructs of the original

instruments. The original measure was given to two subject matter experts, both were PhD scholars as well as faculty members. They identified certain words (e.g., to replace the word partner with friend or the one with opposite gender, in the questionnaire) that were not culturally appropriate and recommended to replace these words (i.e. partner to be replaced with friend) by giving their opinion.

Step 2: Comparison among received versions translated in a committee. The three forward-translated variants of the instruments' instructions, items, and answer format were contrasted to the initial edition of the BIGSS in a committee consisting of bilingual subject matter experts including two PhD and two M.Phil. in Psychology to evaluate inconsistencies and uncertainties in words and phrases, and definition accompanying with each other (Urdu translated versions) and also with original version. Any questions or differences were addressed in the panel and solved. Dictionaries (Oxford and Urdu) were consulted where ambiguity in translation prevailed.

The word of beach was replaced with function/bank of a river (item 7), and item 10 was deleted as the author himself recommended to exclude this item as it was not psychometrically sound. Otherwise, the best items were selected from the three versions (with 100% agreement, less than 75% agreement were discarded in every item) and for certain translations, two or three translated statements were merged in certain items in order to get the exact meaning of the original version. This procedure produced the Instrument's initial, rough translation.

Step 3: Original-translation. The version was initially translated with the help of other three bilingual translators (M.Phil. scholars). All the translators had knowledge regarding the instrument's construction and jargon, but were not aware and had not seen the authentic instrument.

Step 4: Comparison among received versions in back-translation for final selection in a committee. Initially, the phrasing, structure of grammar, consistency in meaning, and relevance of the instructions, items, and answer format of the three back translations were examined in a committee with those of the original English version.The committee consisted of three subject matter experts (two PhD, and one M.Phil.) and one researcher of the study. The word including new clothes was replaced with these clothes (item 11a), I was replaced with you in all the sub-items, and for the word body, *jisamat* [physique] was replaced with *jism* [body] (item 2, 4, 10, and 12). After discussion, consensus was made with the members of the committee to create the instrument's final form.

After forward and backward translation, and consulting the subject matter expert, certain words were replaced that were not culturally relevant. Filler items were eliminated by taking the permission from the author, also certain words that were not appropriate in our culture (e.g. partner, beach etc.), were also replaced by the consent of the author. Additionally, item number 10b and 10d were eliminated because the author recommended that these items are not psychometrically sound. The last version (translated and modified) had 14 items that are based on scenarios with an additional two answer options, one of which represented perceived body image guilt and shame.

Disordered Eating Behavior Scale. This 26-item self-report measure for disordered eating behaviours was developed by Muazzam and Khalid (2011). Each item is rated on a 5-point scale, with 0 meaning never and 4 meaning always, to reflect how much it best describes the respondent. The scale was used with the author's consent. It was created with teens and the general adult population in mind. It has no items for reverse scoring. Social Pressure (items 21–26), Eating Withdrawal (items 1–8), Eating Choices and Habits (items 16–20), and Overeating (items 9–15) are the four subscales. Two subscales, namely Eating Withdrawal and Overeating, were employed in the current study. The total scale's alpha coefficient is.86. The alphas for the subscales for societal pressure, eating choices and habits, eating withdrawal, and binge eating are respectively.94,.95,.84,

and.83. Greater score indiactes more proneness towards disordered eating behavior.

Procedure

The data were collected from Islamabad/Rawalpindi. Permission to collect data was taken from the school and college authorities. Data were collected through convenient sampling. The study's objectives were explained to those who participated verbally, and written informed permission was obtained to confirm their desire to participate. It was granted to those who partcipated that their privacy and anonymity would be maintained. The scales were used with the authors' consent. While collecting data in one school the principal got offended on the questionnaire and stopped data collection in between. Data collected from others schools was arranged from the personal resources and some principals after thoroughly viewing the questionnaires gave permission for data collection, however, initially, they do showed some reluctance.

Results

In order to evaluate the measures' psychometric capabilities and subscales utilized in the current research, descriptive statistics, Cronbach alpha, and confirmatory factor analysis were carried out on the validation study data (n = 316). The analyses were carried out by using SPSS version 21 and AMOS version 21. The link between the variables was investigated using Pearson-Product Moment correlation. Moderation of variables were studied using linear regression analysis through process macro by Andrew Hayes and AMOS version 21. An independent sample t-test was used to determine the mean difference between the sexes. The Body Image Guilt and Shame Scale underwent confirmatory factor analysis (CFA) only because it was translated for the current study.

Body Image Guilt and Shame Scale-Urdu (BIGSS-U), Confirmatory Factor Analysis. To assess fit of the model of the BIGSS (Urdu version) on the current sample, confirmatory factor analysis (CFA) was carried out using AMOS version 21. The BIGSS is divided into two subscales (i.e. Body Image Guilt and Body Image Shame). The model's acceptability was assessed using a number of goodness of fit indices, including the standardised root mean square residual (SRMR), comparative fit index (CFI), root mean square error of approximation (RMSEA), and chi-square divided by degrees of freedom (2/df). According to Brown (2006), the 2/df ratio had to be less than 2, the RMSEA had to be.08 or below, the CFI, GFI, and IFI had to be greater than.95, and the SRMR couldn't be higher than.10 (Brown, 2006)

Table 2

CFA (Indices of Model Fit) for Body Image Guilt and Shame Scale-Urdu (n = 316)

Model/ Modifications	χ^2(df)	χ^2/df	GFI	IFI	CFI	RMSEA	SRMR
M1	712.748(349) p = .000	2.042	.85	.79	.79	.059	.062
M2	602.133(298) p = .000	2.021	.86	.82	.81	.059	.061
M3	435.957(280) p = .000	1.557	.90	.91	.90	.043	.052

Note. M1= Default Model of CFA for (BIGSS); M2= Model 1 after deleting item 1a and 1b; M3= Model 2 after adding error covariance.

After conducting the analysis, the default model indicates a poor fit with the value of CFI, GFI, and IFI very less than .90. The factor loadings of item number 1b (representing guilt) is .15 (less than .40). Additionally, loadings of item number 1a (representing shame) is .29 (less than .40) at *p* = .000. To improve model, item number 1b and 1a are deleted in Model 2. Again the model represented a poor fit with values of GFI, IFI, and CFI less than .90.

The model was additionally modified by adding the covariance between the error terms (e3↔e4, e16↔e18, e17↔e19, e3↔e11, e24↔e26, e17↔e24, e4↔e13, e2↔e8, e25↔e27, e24↔e25, e9↔e12, e4↔e7, e16↔e17, e6↔e13, e18↔e24, e21↔e25, e20↔e21, e11↔e12). The model again is analyzed after adding the covariance and it showed a model fit with all values falling within the acceptable range in Model 3. Table 3 shows the factor loading of the scale.

Table 3

Factor loadings for the Body Image Guilt and Shame Scale (Urdu Version) (n = 316)

Shame		Guilt	
Item No.	Loadings	Item No.	Loadings
2b	.37	2a	.32
3a	.42	3b	.43
4b	.44	4a	.41
5a	.53	5b	.42
6b	.42	6a	.37
7b	.57	7a	.40
8b	.44	8a	.53
9a	.59	9b	.50
10b	.55	10a	.53
11b	.57	11a	.42
12b	.63	12a	.59
13a	.38	13b	.55
14a	.48	14b	.49

Association among Body Image Guilt and Shame and Eating disorders.

The Pearson Product Moment Correlation 'r' was calculated to look at how the study's variables related to one another. The entire sample was analysed, as well as the boys and girls independently. (see Table, 4 and 5).

According to the results in Table 4, among adolescents, disordered eating behaviors is positively correlated with eating withdrawal and overeating (indicating construct validity of the scale). Similarly, Positive correlations between body image guilt as well as shame and body image guilt and shame demonstrate the construct validity of the measure. According to the results, body image guilt s is positively correlated with eating withdrawal. Additionally, body image shame is positively correlated with eating withdrawal and overeating.

Table 4

Correlation Matrix across Body Image Guilt and Shame and eating disorders (N = 316)

Sr.No.	Variables	1	2	3	4	5	6
1	**BIGS**	-	.92**	.91**	.20**	.15**	.16**
2	BIGS_BIG		-	.70**	.16**	.14*	.10
3	BIGS_BIS			-	.21**	.13*	.19**
4	**DEBs**				-	.79**	.74**
5	EW					-	.17**
6	OE						-
	M	74.10	38.39	35.70	35.02	18.86	16.15
	SD	18.06	9.89	9.70	8.78	5.95	5.90
	α	.88	.79	.80	.69	.69	.64

Note. BIGS = Body Image Guilt and Shame; BIGS_BIG = Body Image Guilt; BIG_BIS = Body Image Shame; DEBs = Disordered Eating Behaviors; EW = Eating Withdrawal; OE = Overeating. *p < .05. **p < .01.

This shows that as body image guilt increases, eating withdrawal also increases, or vice versa. Similarly, as body image shame increases, eating withdrawal and overeating also increases, or vice versa. Therefore, Hypothesis 1 stating a positive relationship among body image guilt and shame and disordered eating behaviors in accepted.

In order to examine the results across gender, separate analysis was carried out for boys and girls (see Table 5).

Table 5

Correlation Matrix across Body Image Guilt and Shame and Disordered Eating Behaviors across Gender

Sr.No.	Variables	1	2	3	4
1	BIGS_BIG	-	.48**	.08	.02
2	BIGS_BIS	.81**	-	.22**	.22**
3	EW	.18*	.09	-	.26**
4	OE	.16*	.18*	.11	-

Note. n = 147 for boys; n = 169 for girls. BIGS_BIG = Body Image Guilt; BIG_BIS = Body Image Shame; EW = Eating Withdrawal; OE = Overeating. (*p < .05. **p < .01).

Lower portion represents the correlations among girls, and upper representing the correlations among boys (see Table 5). According to the in Table 5, among boys, body image shame is positively correlated with disordered eating behaviors (overeating and eating withdrawal). This shows that as body image shame increases among boys, disordered eating behaviors also increases, or vice versa. Further results showed that among girls, there is a significant positive correlation among body image guilt and patterns of disordered eating (including overeating and eating withdrawal). This shows that as body image guilt increases among girls, disordered eating behaviors also increases, or vice versa. Additionally, body image shame is significantly positively correlated with overeating among girls, indicating that as body image shame increases, overeating also increases, or vice versa.

Gender Differences

In order to study the differences among male and female in respect to body image guilt and shame and disordered eating behaviors, *t*-test (independent sample) was used. Gender was split in two categories that is, girls (n = 169) and boys (n = 146).

Table 6

Mean, SD, and t-values across Gender on Study Variables

Variable	Girls (n = 169)	Boys (n = 146)			95% CI		
	M (*SD*)	*M* (*SD*)	*t* (313)	*p*	LL	UL	Cohen's *d*
BIGS							
BIS	36.95(10.41)	40.06(9.01)	2.81	.04	.93	5.28	0.31
BIG	34.67(10.75)	36.88(8.20)	2.02	.00	.06	4.35	.23
DEB							
EW	18.85(6.27)	18.86(5.60)	.01	.17	-1.31	1.33	-
OE	16.04(5.61)	16.25(5.35)	.34	.92	-1.00	1.43	-

Note. BIGS = Body Image Guilt and Shame; BIS = Body Image Shame; BIG = Body Image Guilt; DEB = Disordered Eating Behavior; EW = Eating Withdrawal; OE = Overeating.

The results in Table 6 show significant differences on body image guilt and body image shame, across gender. According to the results, boys experience more body image guilt and shame as compared to girls. According to Cohen's *d*, the effect size for body image shame is large, however, for body image guilt is small indicating that the difference between the two group is not very large. However, non-significant findings were found on disordered eating behaviors across gender. Therefore, Hypothesis 2 that girls experience higher levels of body image guilt and shame and disordered eating behaviors is rejected.

Discussion

The goal of the current study was to investigate how disordered eating behaviours and guilt and shame related to body image. Additionally, the study sought to investigate how gender affected the variables under investigation.

A significant positive correlation is founded by the results among disordered eating behaviors (overeating and eating drawout) and body image guilt and shame. This shows that with increase in disordered eating behaviors, body image guilt and shame also increases or vice versa. This is evident from the fact that there is a strong association of disordered eating and body image guilt and shame as indicated by the sexual objectification theory (Fredrickson & Roberts, 1997). Additionally, Adolescents who are overweight or unsatisfied with their weight are more likely to engage in risky behaviours such frequent dieting or extreme calorie restrictions, and eating disorders (Stang & Story, 2005). Hence, increase in body satisfaction would make adolescents less

prone towards disordered eating behaviors. According to sexual objectification theory, body surveillance promotes body shame and guilt, leading towards more disordered eating behaviors (Fredrickson & Roberts, 1997). Hence experience more body image guilt and shame leading towards disordered eating behaviors.

According to the results, among boys, body image shame and disordered eating pattern (eating with-draw and overeating) are positively associated with each other. Boys too face body image concerns during puberty. During puberty, boys are more expected to increase their body parts'size and want to have a masculine V-shaped physique with wide shoulders (McCabe & Riccardelli, 2004). Boys popularity is defined by athletic abilities (Coyl, 2009). During adolescence body dissatisfaction is endorsed usually due to associated physical changes with puberty (Abraham & O'Dea, 2001). Also, shape and weight dissatisfaction may results in activities that are unhealthy (Holland et al., 2014), and use of substance such as diet or diuretics medication and laxatives. Body image in itself is one of the potential predictor of disturbances related to eating (Cash & Pruzinsky, 2002). Cognitive development concurrently enables heightened capacities for social-comparison and self-evaluation. Adolescents during this period of self-focus and quick change are prone, particularly, to engage in negative self-evaluations, that is a shame-proneness characteristic (Rudolph et al., 2006). Hence the present study showed that boys during puberty also experiences body image concerns that needs a focused attention and more studies are needed to work on the body image concerns among boys of this age group.

Results further showed that among girls, body image guilt is significantly positively associated with disordered eating behaviors (overeating and eating withdrawal). Additionally, body image shame is significantly positively correlated with overeating among girls. Among adolescent girls, body image apprehensions become so prevalent that it has become a probable part of puberty (Kater et al., 2002). Adolescent girls are extremely aware of their appearance and considerably invest emotional and cognitive resources in relation to physical body (Cash & Pruzinski, 2002). More and more adolescents for these reasons in order to alter body parts resort to cosmetic surgeries. These procedures as a choice are considered ,chiefly, when higher levels of body image guilt and shame is experienced by a person and employs the appearance-fixing technique to deal with their unhappiness. In high-developed civilizations, cosmetic surgery is seen as ordinary if the body's appearance and/or facial do not conform to the ideal criteria (Tyler, 2013). As demonstrated by Rudd and Lennon (2000), teens who engage in these behaviours are aware of the dangers they pose, but they choose to ignore them in order to uphold social standards of beauty. Additionally, because they believe that they are in control of their bodies, they may feel guilty if they don't follow their routine for managing their physical appearance (Rudd et al., 2000).

Furthermore, results showed nonsignificant differences across gender on disordered eating behaviors. This is evident form that fact that researches on eating and body issues of boys are sparse and studies have failed to identify eating problems among boys (see Gupta, 2011; Zehr et al., 2007). However, boys too undergo pubertal changes and they also experience eating issues (see Coyl, 2009; McCabe & Riccardelli, 2004). Hence, this finding highlights the fact that both boys and girls may be experiencing eating issues during puberty and not girls only suffer from disordered eating. Aadditionally, results showed that boys experience higher levels of body image guilt and shame as compared to girls. The outcome of the current study shows that boys too experience body image concerns during puberty (Gupta, 2011; Kaltiala-Heino et al., 2001; Zehr et al., 2007), hence, efforts should be made to enhance body satisfaction among boys too. Therefore, Hypothesis 2 that girls experience higher levels of body image guilt and shame and disordered eating patterns is rejected.

Constraints and suggestion

Below is a list of the study's short comings and recommendations

In the present study, the impact of pubertal timings was not assessed, hence, it is recommended for the future studies to also consider this phenomenon to study its impact on body image.

1. Oxfam ensured that the arrangement of the data collection and the coordinator took the important consent from the authorities of the institute. In future, it is proposed to maintain confidentiality of the parents and teachers.
2. Due to the nature of the project, the data was extremely varied. Consequently, the sample should be cautiously chosen, and results could be different for more homogenous data.
3. Measures that were used were not indigenous in the present study, and were both translated into Urdu and strangely did not apply to the culture. Therefore, it is advisable to adopt indigenous approaches.
4. In the present study, although Oxfam arranged data collection but were reluctant to collect data from the university setup. Hence, in future better to bring data from universities as well for adolescents.
5. The data collection of the study was found to be cathartic for the partici pants regarding their body image matters and it was apparent that adolescents needed to talk about their body image issues. Hence, studies are needed to work on the body image of adolescents, especially, boys.

Implications of the study

1. The present study will help people of various professions including care takers, teachers, and clinicians to effe ctively plan strategies for implement ting educational opportunities for adolescents in order to educate them regarding their body image and eating patterns during pubertal phase.
2. Regarding with body image concerns, adolescent boys are reluctant often to seek help from their mother and father. Hence, Parents need instruction on how to talk to their boys about these difficulties.
3. Boys are more dissatisfied with their bodies, therefore, they should be given counseling and awareness regarding the bodily changes taking place during puberty in order to prevent mental health issues.

Conclusion

The current research concluded that there is a positive relationship among body image guilt and shame and disordered eating behaviors. Additionally, during puberty, body image concerns are heightened among both boys and girls. Among girls, body image guilt is positively linked with disordered eating behaviors. Among boys, body image shame is positively linked with disordered eating behaviors. Furthermore, boys experience higher levels of self body perception guilt and shame as contrast to girls. Hence, in conclu sion boys equally, during puberty, experience body image concerns; however, they are ignored in the light of researches due to the sampling bias of including and considering only girls for studying body image and eating issues. Hence, further studies should also take boys in to account.

Declaration

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Conflict of Interest

The authors are well informed and declared no competing interests.

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Availability of data and materials

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

Ethical approval

Formal permission was acquired from institutional Ethical board to conduct research.

Competing interest

The authors declare to have no competing interests.

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