

ABNORMAL EATING ATTITUDES AND BODY IMAGE DISSATISFACTION AMONG UNIVERSITY STUDENTS: AN EXPLORATORY STUDY

Noshi Iram Zaman*, Faiza Nisar*, Shazia Yusuf*, and Mohammad Aslam Khan**
Professional Psychology Bahria University, Islamabad*
Medicare Hospital, Attock, Pakistan**

ABSTRACT

Objective: Research was aimed to explore the relationship between abnormal eating attitudes and body image dissatisfaction among university students.

Design: Cross sectional

Place and Duration of the study: Rawalpindi-Islamabad from January to August, 2018.

Subjects and Methods: 249 university students (female = 136 & Males = 113) were taken from Public, Private and Semi-Government Universities of Rawalpindi and Islamabad. Body Shape Questionnaire-34 was used to assess the body image dissatisfaction while Disordered Eating Attitude Scale was used to assess abnormal eating attitudes.

Results and Conclusion: It was found that the body image dissatisfaction significantly predicts abnormal eating attitudes among university students, and contributes 33% of the variance in abnormal eating attitudes. It was found that the body image dissatisfaction significantly predicts abnormal eating attitudes among university students.

Keywords: Abnormal eating attitudes; Body image dissatisfaction; University students.

INTRODUCTION

For healthy mind and body, eating is important. It is crucial for one's survival. Eating attitudes relate one's relationship with food and behavioural preferences encompassing thoughts, feelings, belief, behaviours, and perception of food i.e., how an individual manages control of food, refusal to eat, anger, guilt, desire and shame pertaining to food (Alvarenga, Koritar, Pinzon et al., 2016). Eating attitudes are drastically changing around the globe and there is a quick transformation in culture because of fastest methods of communication worldwide i.e. social media. These transformations also have an enduring impact on cultures of developing countries like Pakistan. The time spent on web, chiefly engaged in activities which involves self-image and eating attitudes and behaviours are linked with decreased body image satisfaction and problematic eating behaviour (Kaewpradub, Kiatrungrit, Hongsanguansri ,& Pavasuthipaisit, 2017).

According to American dietetic Association (2006) abnormal/unhealthy eating attitudes are more typical and incorporate practices to lose or control weight, like none or too much concern about nutritional values, calories intake, and irritability when hungry. Additionally, being indecisive of eating, consuming food to induce psychological issues such as too much food intake until incapacitated and showing ineffective fantasies and convictions concerning eating and weight.

It is evident from clinical observations that university students are on the verge of having abnormal eating attitudes, resultantly affecting their quality of life. Šataliæ, Bariæ and Keser (2007) ascertained that most university student restrict themselves on specific food intake. Thus, absence of abilities in choosing healthy nutritional choices may in turn negatively affect eating practices. Mikolajczyk, Ansari and Maxwell (2009) verified that university students often face different kind of stress and burden during university life that may contrarily impact their food intake. They may possibly show abnormal eating attitudes and the reasons are enormous like accessibility of fast food, lack of time, and non-affordability of taking costly organic diets. Family/guardians eating patterns and attitudes matters a lot in individuals eating behaviour. According to Baker, Whisman, and Brownell (2000) parent's perceived criticism about eating and appearance was linked with attitudes and behaviors towards eating among daughters. Moreover, Kluck (2008) reported family's negative food related

experiences and family dysfunction was related to discorded eating attitudes and eating behaviour affect body image.

According to Bandura's social learning theory (SLT-1977) behaviour is learnt through observation and watching everyone around them, so our eating behaviour is imitated by the behaviour of individuals we accompany. Macintyre, Reilly, Miller and Eldridge (1998) found that the media majorly affects both our attitudes towards nutrition and what we eat. Thus, media can impact the eating behaviour via congregation of people as described by SLT.

According to Grogon (2016) body image is a multi-dimensional, subjective and dynamic idea that integrates one's perception, interpretation and attitudes about his/her own body. Females are being disposed to wish for getting in shape while males probably longing to expand mass. Kelly, Eisenberg, Story and Neumark-Sztainer (2005) revealed that young girls who were friends with girls who exercised to stay fit outlined a positive body image and they likewise impersonate their friends who eat less. In other words eating shapes our bodies and our looks determine what we eat.

Body dissatisfaction is defined by Stice and Shaw (2002) as "*a negative personal valuation of one's physical body, such as stomach, weight, hips, and the figure as a whole*". Body image dissatisfaction and concerns regarding one's looks is a phenomenon quite prevalent in different parts of the world (Jolly, Pickard, Mikolaitis et al., 2012). Ambreen and Hassan (2005) explains the existence of body image portrait overwhelmed by the individual's own particular self-perception; body image, and its association with self-esteem among university students. It was pragmatic that young men would be having enhanced self-esteem when contrasted with girls and the relationship of body satisfaction with self-esteem has solid connection in young girls than in young men.

Self-discrepancy theory of Higgins (1987) claims that when people contrast one's self-state with another, an inconsistency exists between the two. The realm of self is total three in number, the "genuine" (or present) self emulates one's impression of personal qualities/ attributes. An individual's perception and not the individual's target on any particular characteristic contain his/her genuine self. Notwithstanding the genuine self. Higgins likewise portrays two different self-realms which co-ordinate or inspire individuals (referred by him as 'self-guides'): the "perfect" self directs to the characteristics that the individual might want to have or that the individual tries to have (I need to be a fire-fighter); the

"should" self-reflects the properties that the individual trusts she or he has a commitment or obligation to possess. Vartanian (2012) found that continuous exposure to thin-promoting media is directly related to increased body dissatisfaction and disorders related to eating among girls who compare themselves to internalized standards (self-discrepancies). Girls who are low on internalized self-standards appeared not to be affected.

Youngsters encountering shift into university life have high expectations for themselves i-e about their career, looks, physique, etc. During this transition they are more preoccupied with their marks, assignments, quizzes, difficulty in time management and socialization. These factors represent an impediment against healthy food intake and may be having more abnormal eating attitudes. University students may possibly show abnormal eating attitudes because of their busy schedule such as fast-food loving behaviour and too much reliance on non-organic foods. Despite the fact that these practices of students are viewed as momentary, but the unhealthy habits as a major aspect of university life may affect them in their older adult lives. Body image dissatisfaction is very evident among university students, where mostly young girls and boys show dissatisfaction with their shapes, skin tone, hair and facial features. Dissatisfaction with one's body consequently affect their eating attitudes. Eapen, Mabrouk and Bin-Othman (2006) reported that diet and cultural alteration, social changes, westernization, family atmosphere, and globalization all significantly affect eating attitudes of young people.

The present study aimed to explore the relationship between body image dissatisfaction and abnormal eating attitudes among university students. Thus, the prior literature shed light on the role of personality in body image dissatisfaction and eating disorders (Davis, 2017). Another study highlighted the role of body image satisfaction, eating attitudes and perceptions of female body in adolescent of Rural South Africa (Pedro , Micklesfield , Kahn , Tollman, Pettifor , Norris ,& 2016). Other investigations also examined the relationship between body image, BMI, eating attitudes and physical activities in rural and urban South African young adults (Prioreshi , Wrottesley , Cohen et al., 2017).

Previous researches has been done in context of eating disorders, role of personality and focus on adolescents and adults of rural and urban areas whereas, present study conclusions were drawn on different population, that is university students and explore body image dissatisfaction relation with abnormal eating attitudes. In Pakistan, a study was conducted which confirmed the tendency to

have an overall negative effect on individual's body image (Khan , Khalid , Khan , & Jabeen, 2011). Another study investigated the role of visual media by examining the link between body image dissatisfaction and eating attitudes in visually impaired women (Baker , Sivyer , & Towell, 1998) .

By reviewing existing literature and clinical observations following hypotheses were made; (1) there will be a significant positive relationship between body image dissatisfaction and abnormal eating attitudes among university students. (2) Body image dissatisfaction will predict abnormal eating attitudes among university students. (3) Abnormal eating attitudes and body image dissatisfaction will differ among males and females university students.

METHOD

Participants

Sample comprised of 249 students (113 males & 136 females), estimated through G-Power software, drawn from public, private and semi-government sector universities of Islamabad and Rawalpindi, Pakistan. Their age ranges from 18-35 years ($M = 22.79$ & $SD = 2.65$).

Demographic information sheet

It consisted of personal and education related information. The personal information included participant's age, gender, marital status, height and weight. Educational information obtained was based on Participant's educational level (Bachelors, Masters, and M-Phil/Diploma), current semester of the study and University (Public, Semi-Government & Private).

The Body Shape Questionnaire (BSQ-34) (Cooper , Taylor, Cooper, & Fairbum, 1987).

It is a self-administered questionnaire designed for adults developed by Cooper (1987). It contains 34 items to assess fear of putting on weight, feelings of low self-esteem and dissatisfaction with body image. There are four categories of scores: not anxious about body shape (range < 81), somewhat anxious (range 81- 110), fairly anxious (range 111-140), and very anxious (range > 140) (Davis, 2017). The psychometric properties of BSQ-34 indicated high level of Cronbach's Alpha i.e., 0.97. In current data alpha level was 0.97.

Disordered Eating Attitude Scale (DAES), Alvarenga, Pereira, Philippi, Estima and Croll (2010).

The original version of Disordered Eating Attitude Scale (DAES) was in Portuguese, it was translated and adapted in English language by Alvarenga et al. It has 25 questions which point on a Likert type scale, and scores are summed that fall in a scoring range of 37 to 190. The higher the score, the worse is the attitude. The internal consistency found to be 0.76.

In current data alpha level was 0.84.

Procedure

The research was conducted after the approval of the departmental ethical committee of Professional Psychology Department, Bahria University Islamabad, Pakistan. The participants were requested for their voluntarily participation in study and briefed about its purpose. Questionnaires were given and participants were instructed to read all the instructions carefully and can ask from the researcher in case of any ambiguity. Moreover, they were assured about the confidentiality of their identity. At the end participants were thanked for their cooperation. The participants were well-informed that if anyone would be interested in the findings and results of the study, they can contact the researcher through email written at the end of the consent form. On average, participants took an hour to complete tests and other relevant information.

The data was analyzed on SPSS-IBM 23. Descriptive and inferential statistical analysis was done. Cronbach alpha was computed for both instruments for the determination of reliability and it revealed that instruments are reliable. Correlation was computed with the help of Pearson correlation. Prediction between variables was done using the linear regression analysis and t-test was used to determine difference on the variables of abnormal eating attitudes and body image dissatisfaction among male and female university students.

RESULTS**Table 1***Demographic information of participants (N=249)*

Variables	Categories	<i>F</i>	%	<i>M</i>	<i>SD</i>
Age				22.79	2.65
Gender	Male	113	45.38		
	Female	136	54.61		
Level of Education	Bachelors	122	48.99		
	Masters	68	27.30		
	Diploma/M-Phil	59	23.69		
University	Public	115	46.18		
	Semi Government		87	34.93	
	Private		40	16.06	

Table 2*Psychometric properties of study variables (N = 249)*

Variables	No of items	α	<i>M</i>	<i>SD</i>	<i>Range</i>		<i>Skewness</i>	<i>Kurtosis</i>
					<i>Potential</i>	<i>Actual</i>		
BID	34	0.97	73.5	33.95	34-204	34-183	0.88	-.01
AEA	37	0.84	77.55	20.43	37-185	40-138	0.36	-.52

Note: BID=Body Image Dissatisfaction, AEA=Abnormal eating attitudes

Table 3

Simple linear regression Analysis on Prediction of Abnormal Eating Attitude by Body Image Dissatisfaction among university students (N = 249).

Variables	B	SE	β	95% CI	
				LL	UL
Constant	51.51	2.50		46.57	56.44
Body image dissatisfaction	.35	.03	.59***	.29	.42

R = .59, R² = .35, ΔR^2 = .34, F= 131.23, p = .000

***p< .001

Table 5

Chi Square for level of body image dissatisfaction among male and female students (N = 249)

Level of body image dissatisfaction	Males	Females	χ^2	p
Not anxious	72	91	8.48	.04
Somewhat anxious	26	16		
Fairly anxious	13	20		
Very anxious	2	9		

DISCUSSION

The purpose of present study was to explore relationship between abnormal eating attitudes and body image dissatisfaction among university students in relevance to Pakistani society. Results revealed significant positive relationship between body image dissatisfaction and abnormal eating attitudes. It was manifested that body image dissatisfaction predict abnormal eating attitudes among university students. Moreover, no significant difference was found on abnormal eating attitudes and body image dissatisfaction among males and females, but on the basis of mean difference body image dissatisfaction among female was found more as compare to male university students.

The results of first hypothesis demonstrated that there is a significant positive relationship between abnormal eating attitudes and body image dissatisfaction among university students. The correlation analyses indicate that individuals who have body shape concerns are linked with the attitude of a

person towards food with reference to the refusal for food, control for it, anger, shame and desire etc.

Many people are more concerned with the intake of calories, control on food intake, concerned about weight gain etc. Those individuals with more body shape concern tend to evaluate constraints with the calories and food, and more concerned about the compensations for more food intake. With increasing body shape concern individuals tend to evaluate feelings concerning pleasure and food memories and how normal one feels to eat. It also illustrates that individuals with body shape concerns are likely to evaluate rigid nutrition concepts and beliefs. Commonly university students are thought to be highly liable population for abnormal eating attitudes.

Musaiger and Al-Mannai (2013) confirmed the subsistence of disordered eating attitudes among university students. Westernized mass media such as magazines, television, and the internet impacted significantly the idea of a perfect body shape to lose weight among female university students in Kuwait. Kaewpradub, et al. (2017) indicated that Through social networks and internet the content related to body image and eating behaviours was negatively linked with body image satisfaction but associated positively with inappropriate eating attitudes/behaviours, purging, use of laxatives/diuretics and drive for muscularity in terms of attitudes and behaviours, bingeing, and was linked with eating behaviours that may lead to obesity.

In Pakistan, results of a study (Jalees & de Run, 2014) depicts positive association between exposure to media and body image was found whereas, negative impact was found between self-esteem and body image. Campagna and Souza (2006) demonstrated that the media is promoting an ideal image of a body which in turn is effecting the concerns and thoughts of the person. People get more judgemental about their weight and body image. With more and more exposure to media specially the print and electronic media youth is specifically unconsciously taking those messages and then making mind to be like that ideal body which is presented by and on media. This in return changing the eating habits of the people. According to Serra and Santos (2003) the body becomes a battleground on receiving different knowledge, practices and the social imaginary.

The second hypothesis was that body image dissatisfaction is likely to predict abnormal eating attitudes among university students. The results reveal

body image dissatisfaction accounted for significant relationship with the incidence of abnormal eating attitudes among university students. Simple linear regression analysis was performed for the identification of the predictive factors that were associated with abnormal eating attitudes among university students. According to Rouzitalab, Gargari, Amirsasan, Jafarabadi, Naeimi, and Sanoobar (2015) the range of susceptible peer groups or selection of friends' circle raises the development of disordered eating. In case if the individual do not meet the criteria for the "ideal body" he may suffer from problems linked with body image, and therefore, inappropriate eating behaviours may develop. Moreover, Dunker, Fernandes and Filho (2009) explained the repetitive irregularity between actual and ideal weight. The authors suggested the symptoms of improper practices of weight control because of dissatisfaction with the appearance.

In the examination by Alves, Vasconcelos, Calvo and Neves (2008) incidence of abnormal eating attitudes was predicted by predisposing factor of body image dissatisfaction. The challenging atmosphere of university and dissimilarities among peers enhance the eagerness for adjustment to the new environment. Studies report a high predominance of dieting and rehearsing to get in shape among university students. Eating less has been recognized as a disordered eating risk factor. Special gatherings in university setting, for example, university competitors and society or social clubs for female students are at high menace for disordered eating. Study findings (Davis, 2017) also concluded that females reported more body dissatisfaction and disordered eating than males.

People are more susceptible to pressures about standard models of society on physical appearance as mentioned by Carlson and Jones (2004). Results obtained from a research proposed in support of theoretical tenets, body image dissatisfaction consistently has been linked with more spontaneous overall symptoms of anxiety and respectively, more common symptoms of generalized anxiety disorder (GAD), social anxiety disorder (SAD), panic disorder (PD), separation anxiety disorder (SAD), in adolescents of community sample. (Abdollahi , Abu Talib , Vakili , et al., 2016); (Cruz-Sáez , Pascual , Salaberria & Echeburúa, 2015); (Dooley, Fitzgerald & , Giollabhu, 2015); (Duchesne, Dion , Lalande et al., 2017); (Ferguson , Munoz , Contreras ,& Velasquez, 2011); (Hughes ,& Gullone, 2011); (Ivarsson , Svalander , Litlere , & Nevenen, 2006); (Touchette ,Henegar , Godart , Pryor , Falissard , Tremblay & Côté ,2011). Contrarily, it is also reported that adolescents with better body image satisfaction

depicts low anxiety symptoms (Cromley, Knatz, Rockwell , Neumark-Sztainer , Story &, Boutelle, 2012); (Koronczai , Kökönyi , Urbán et al., 2013).

Conclusion

Body image satisfaction is playing a significant role in establishing eating habits among university students. University students have to face many challenges so the body image dissatisfaction effect their confidence in many ways. There is a need to provide them with proper guideline to monitor their eating habits and body image satisfaction.

Limitations and Recommendations

For better generalizability, future studies must include bigger sample from multiple cities across the country. In future experimental studies needed to explain this framework in a better way. Accordingly, future studies should include additional significant variables in order to identify when this is not the case. Future studies can also investigate, higher number of people reporting not being anxious about body issues verses the smaller number of individuals indicating high level of anxiety the reason for this stark difference can be examined by future researchers.

REFERENCES

- Alvarenga, M, S., Koritar P., Pinzon, V, D., Figueiredo, M., Fleitlich-Bilyk, B., Philippi, S, T., & Scagliusi, F, B. (2016). Validation of the Disordered Eating Attitude Scale for adolescents. *Journal Brasileiro de Psiquiatria*, 65(1), 36-43.
- Abdollahi, A., Abu-Talib, M., Reza, M, V., M, Momtaz, V., & Kavia- Mobarake, R. (2016). Body-esteem mediates the relationship between self-esteem and social anxiety: The moderating roles of weight and gender. *Child Care in Practice*, 22(3),296-308.
- Alvarenga, M, S., Pereira, R, F., Scagliusi, F, B., Philippi, S, T., Estima, C, C., & Croll, J. (2010) Psychometric evaluation of the disordered eating attitude scale (DEAS). *English version. Appetite*, 55(2), 374-6.

- Alves, E., Vasconcelos, F. D., Calvo, M. C., & Neves, J. D. (2008). Prevalência de sintomas de anorexia nervosa e insatisfação com a imagem corporal em adolescentes do sexo feminino do Município de Florianópolis, Santa Catarina, Brasil. *Cadernos de Saúde Pública*, 24, 503-12.
- American Dietetic Association. Position of the American Dietetic Association: Nutrition intervention in the treatment of anorexia nervosa, bulimia nervosa, and other eating disorders. (2006). *Journal of the American Dietetic Association*, 106(12), 2073.
- Ambreen, M., & Hassan, A. (2005). Relationship between body image and self-esteem in male and female university students (Unpublished master's thesis). *Behavioural Sciences Department, Fatima Jinnah Women University, Rawalpindi*.
- Baker, C. W., Whisman, M. A., & Brownell, K. D. (2000). Studying intergenerational transmission of eating attitudes and behaviours: methodological and conceptual questions. *Health Psychology*, 19(4), 376.
- Baker, D., Sivyer, R., & Towell, T. (1998). Body image dissatisfaction and eating attitudes in visually impaired women. *International Journal of Eating Disorders*, 24(3), 319-22.
- Cruz-Sáez, S., Pascual, A., Salaberria, K., & Echeburúa, E. (2015). Normal-weight and overweight female adolescents with and without extreme weight-control behaviours: Emotional distress and body image concerns. *Journal of health psychology*, 20(6), 730-40.
- Cromley, T., Knatz, S., Rockwell, R., Neumark-Sztainer, D., Story, M., & Boutelle, K. (2012). Relationships between body satisfaction and psychological functioning and weight-related cognitions and behaviours in overweight adolescents. *Journal of Adolescent Health*, 50(6), 651-3.
- Campagna, V. N., & Souza, A. S. (2006). Corpo e imagem corporal no início da adolescência feminina. *Boletim de psicologia*, 56(124),9-35.

- Cooper, P. J., Taylor, M. J., Cooper, Z., & Fairbum, C. G. (1987). The development and validation of the Body Shape Questionnaire. *International Journal of eating disorders*, 6(4), 485-94.
- Davis, L. L. (2017). The role of personality in body image dissatisfaction and disordered eating: discrepancies between men and women. *Journal of eating disorders*, 5(1), 1-9.
- Duchesne, A. P., Dion, J., Lalande, D., Bégin, C., Émond, C., Lalande, G., & McDuff, P. (2017). Body dissatisfaction and psychological distress in adolescents: Is self-esteem a mediator?. *Journal of Health Psychology*, 22(12), 1563-9.
- Dooley, B., Fitzgerald, A., & Giollabhui, N. M. (2015). The risk and protective factors associated with depression and anxiety in a national sample of Irish adolescents. *Irish Journal of Psychological Medicine*, 32(1), 93-105.
- Dunker, K. L., Fernandes, C. P., Carreira, & Filho, D. (2009). Socioeconomic influence on eating disorders risk behaviors in adolescents. *Journal Brasileiro de Psiquiatria*, 58(3), 156-61
- Eapen, V., Mabrouk, A. A., & Bin-Othman, S. (2006). Disordered eating attitudes and symptomatology among adolescent girls in the United Arab Emirates. *Eating behaviours*, 7(1), 53-60.
- Ferguson, C. J., Munoz, M. E., Contreras, S., & Velasquez, K. (2011). Mirror, mirror on the wall: Peer competition, television influences, and body image dissatisfaction. *Journal of Social and Clinical Psychology*, 30(5), 458-83.
- Grogan, S. (2016). *Body image: Understanding body dissatisfaction in men, women and children*. Routledge.
- Hughes, E. K., & Gullone, E. (2011). Emotion regulation moderates relationships between body image concerns and psychological symptomatology. *Body image*, 8(3), 224-31.

Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. *Psychological review*, 94(3),319.

Ivarsson, T., Svalander, P., Litlere, O., & Nevonen, L. (2006). Weight concerns, body image, depression and anxiety in Swedish adolescents. *Eating behaviours*, 7(2), 161-75.

Jalees, T., & deRun, E, C. (2014). Body image of Pakistani consumers. *Journal of Management Science*, 1(1),16-34.

Jolly, M., Pickard, A. S, Mikolaitis, R, A., Cornejo, J., Sequeira, W., Cash, T, F., & Block, J, A., Body image in patients with systemic lupus erythematosus. *International Journal of Behavioural Medicine*, 19(2), 157-64.

Jones, D. C. (2004). Body image among adolescent girls and boys: a longitudinal study. *Developmental psychology*, 40(5), 8236.

Kaewpradub, N., Kiatrungrit, K., Hongsanguansri, S., & Pavasuthipaisit, C. (2017). Association among internet usage, body image and eating behaviours of secondary school students. *Shanghai Archives of Psychiatry*. 29(4), 208.

Koronczai, B., Kökönyi, G., Urbán, R., Kun, B., Pápay, O., Nagygyörgy, K., Griffiths, M, D., Demetrovics, Z. (2013). The mediating effect of self-esteem, depression and anxiety between satisfaction with body appearance and problematic internet use. *The American journal of drug and alcohol abuse*, 39 (4), 259-65.

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.

Kelly, A, M., Wall, M., Eisenberg, M, E., Story, M., & Neumark-Sztainer, D. (2005) Adolescent girls with high body satisfaction: who are they and what can they teach us? *Journal of Adolescent Health*, 37(5), 391-6.

- Kluck, A. S. (1998). Family factors in the development of disordered eating: Integrating dynamic and behavioural explanations. *Eating behaviours*, 9(4), 471-83.
- Musaiger, A. O. C., & Al-Mannai M. (2013). Role of obesity and media in body weight concern among female university students in Kuwait. *Eating behaviours*, 14(2), 229-32.
- Martin, J. B. (2010). The development of ideal body image perceptions in the United States. *Nutrition Today*, 45(3), 98-110.
- Mikolajczyk, R. T., El Ansari, W., & Maxwell, A. E. (2009). Food consumption frequency and perceived stress and depressive symptoms among students in three European countries. *Nutrition Journal*, 8(1), 31.
- Macintyre, S., Reilly, J., Miller, D., & Eldridge, J. (1998). *Food choice, food scares, and health: the role of the media*. The Psychology of Food Choice - Google Books
- Prioreschi, A., Wrottesley, S. V., Cohen, E., Reddy, A., Said-Mohamed, R., Twine, R., Tollman, S. M., Kahn, K., Dunger, D. B., & Norris, S. A. (2017). Examining the relationships between body image, eating attitudes, BMI, and physical activity in rural and urban South African young adult females using structural equation modeling. *Plos one*, 12(11), 0187508.
- Pedro, T. M., Micklesfield, L. K., Kahn, K., Tollman, S. M., Pettifor, J. M., & Norris, S. A. (2016). Body image satisfaction, eating attitudes and perceptions of female body silhouettes in rural South African adolescents. *PLoS One*, 11(5), 0154784.
- Rouzitalab, T., Gargari, B. P., Amirsasan, R., Jafarabadi, M. A., Naeimi, A. F., & Sanoobar, M. (2015). The relationship of disordered eating attitudes with body composition and anthropometric indices in physical education students. *Iranian Red Crescent Medical Journal*, 17(11), e20727.
- Serra, G. M., Santos, E. M. (2003). Health and media in the construction of obesity and the perfect body. *Science & collective health*, 8, 691-701.

82 Zaman, Nisar , Yusuf, and Khan

- Štalić, Z., Colić, Barić, I., & Keser, I. (2007). Diet quality in Croatian university students: energy, macronutrient and micronutrient intakes according to gender. *International journal of food sciences and nutrition*, 58(5), 398-410.
- Stice, E., & Shaw, H. E. (2002). Role of body dissatisfaction in the onset and maintenance of eating pathology: A synthesis of research findings. *Journal of psychosomatic research*, 53(5), 985-93.
- Touchette, E., Henegar, A., Godart, N, T., Pryor, L., Falissard, B., Tremblay, R, E., & Cote, S, M. (2011). Subclinical eating disorders and their comorbidity with mood and anxiety disorders in adolescent girls. *Psychiatry research*, 185(1-2), 185-92.
- Vartanian, L, R. (2012). Self-discrepancy theory and body image. *Encyclopedia of body image and human appearance*, 2, 711-7.