

Relationship between Body Image, Self-Esteem and Academic Behavior of Adolescent Girls in Karachi, Pakistan

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Abstract

Objective: The objective of the study is to explore the relationship between body image, self-esteem and academic behavior amongst adolescent girls living in Karachi, Pakistan, and simultaneously explore the mediating role of self-esteem in the relationship of the other two variables.

Methods: It was a cross-sectional study design with a sample size of 400 adolescent girls belonging to a selected community of Karachi, Pakistan. Pre-validated tools, Body Shape Questionnaire, Rosenberg Self-Esteem Scale and Academic Behavior Scale were used for data collection of the study. The data was then analyzed using SPSS 17.

Results: The results proved significant associations between all three variables with $p < 0.05$. Moreover, a partially mediating role of self-esteem was noticed to be causing 74.8% variation in the relationship between body image and academic behavior.

Conclusion: As per the study findings, body image, self-esteem and academic behavior of adolescent girls residing in Karachi, Pakistan are associated with each other. It was also concluded that higher body image dissatisfaction may lead to poor self-esteem which in turn negatively impacts the positive academic behavior of the girls. Hence, representing a mediating role of self-esteem in the relationship. Overall, parents, educators, academic professionals, counselors and healthcare professionals can benefit from the study findings to positively play their parts in improving the lives of adolescents around them.

Keywords: Body Image, Self-Esteem., Academic Behavior., Adolescent Girls., Pakistan.

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1. INTRODUCTION

Adolescence is a transitional phase comprising major physical, emotional, and behavioral changes in the life of young individuals as they mature into an adult. During this developmental phase of life, adolescents go through certain widely known physical changes along with the lesser acknowledged but equally important 'psychological, social, and moral' ups and downs as well (Csikszentmihalyi, 2019).

During their developmental phase, adolescents are concerned about their image pertaining to how they are perceived by others around them. Feedback and criticism from others are given high regard by both boys and girls of this age group and a negative feedback can generate negative feelings, and behavior and ultimately result in health issues amongst them (Gilbert & Thompson, 2002). According to Agam, Tamir and Golan (2015), both genders react differently to the developmental changes and mostly, young girls tend to have more difficulties in emotional and academic parts of life in comparison to boys when dealing with their self-esteem and body image perception. Moreover, studies suggest that poor satisfaction towards body image can be a predisposing factor towards low self-esteem amongst adolescents and such situation can eventually increase the risk of developing physical and mental health concerns like depression, eating disorders, or anxiety (Sachdeva, Sachdeva & Goswami, 2012).

Although the association of body image and self-esteem of an individual has been explored many times in literature but its relationship with academic behavior and the mediating role of self-esteem with the other two variables has been overlooked, let alone the relationship of all three variables in the context of Pakistan, which can be of significance, as culture plays a major in the development of these three variables under study.

Along with that, with time and increasing exposure to worldly matters and wider practices, without much filter, through media and other sources adolescents of younger age who are less than 13 years old, are equally facing self-esteem and body image satisfaction issues that needs to be studied (Gupta, 2012). Hence, acknowledging the afore-mentioned information, this study will focus on adolescent girls of the age group between 10 to 19 years to get a wider perspective of the current situation. This is in contrast to the currently available literature where most studies cater to the age beyond 13 years and overlook the younger population of the adolescent group.

It is essential to identify the presence of body image dissatisfaction and low self-esteem soon in this critical age of adolescence before it harms the mental and physical aspects of the health of an adolescent significantly. The study revolves around four major hypotheses (Table 1) with the objective to explore the relationship between body image, self-esteem, and academic behavior among adolescent girls and

simultaneously explore the mediating role of self-esteem in the relationship of the other two variables. The conceptual framework of the study is shown below in figure 1.

The findings will facilitate the stakeholders in formulating strategies for adolescents around them accordingly in light of the Pakistani culture. The study does not analyse the role of media and other socio-cultural factors which can influence the self-esteem of adolescents, their body image satisfaction, and academic behavior, adding a different dimension to the findings. Also, the study does not consider any other health issues and behavioural habits, for example, anxiety, eating disorders, obesity, and stress as the influencing factors. Besides, the study only includes the data collected from adolescents; however, involving parents or other stakeholders can add more value and different perspectives. Although all the mentioned aspects are acknowledged as essential, they remain out of the scope of the study. Further research involving the above can strengthen the study findings and help society at large.

Table 1: Hypotheses of the Study

Null Hypothesis	Alternate Hypothesis
There is no association between body image dissatisfaction and self-esteem of adolescent girls in Karachi, Pakistan.	There is a negative association between the body image dissatisfaction and self-esteem of adolescent girls in Karachi, Pakistan.
There is no association between body image dissatisfaction and the academic behaviour of adolescent girls in Karachi, Pakistan.	There is a negative association between the body image dissatisfaction and academic behavior of adolescent girls in Karachi, Pakistan.
There is no association between the self-esteem and academic behavior of adolescent girls in Karachi, Pakistan.	There is a positive association between the self-esteem and academic behavior of adolescent girls in Karachi, Pakistan.
Self-esteem does not mediate the relationship between body image dissatisfaction and academic behavior of adolescent girls in Karachi, Pakistan.	Self-esteem mediates the relationship of body image dissatisfaction and academic behaviour of adolescent girls in Karachi, Pakistan.

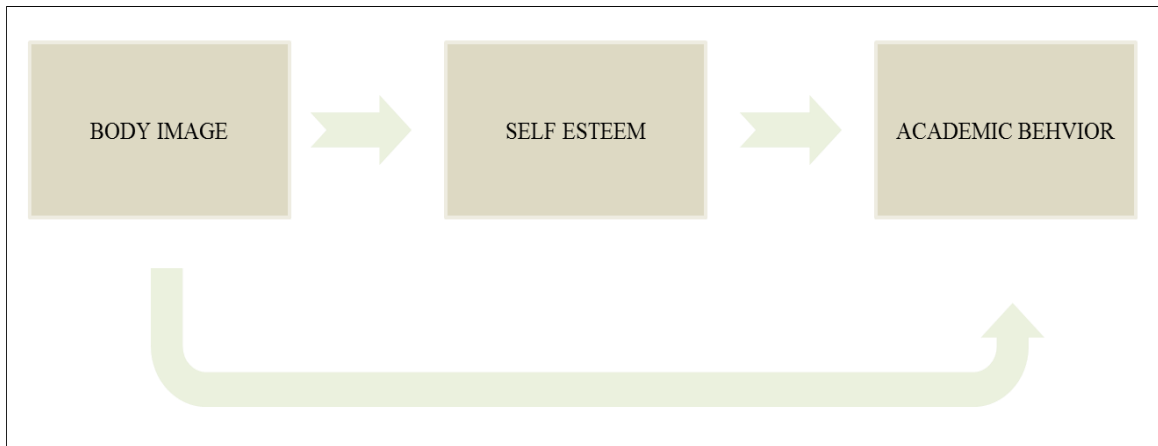


Figure 1: Conceptual Framework.

2. MATERIAL AND METHODS

The study adopts the cross-sectional study design targeting the population of 10 to 19-year-old adolescent girls from a selected community dispersed across the city of Karachi, Pakistan. 400 sample participants were selected using non-probability convenient sampling technique with consideration to the time limit of eight months and relatively large sample size to be catered. Convenient sampling allowed quick and inexpensive data collection from participants for the research. Adolescent girls of the specified age group who did not attend schools or any academic classes were not a part of the study sample.

Three pre-validated, self-administered tools facilitated the quantification of the study variables and data collection. These included, Body Shape Questionnaire 16b developed by Evans and Dolan (1993), a shorter form of the comprehensive Body Shape Questionnaire, with a Cronbach Alpha of 0.918 was used to assess the satisfaction of an individual related to their body image. This version consists of 16 items which requires the participants to rank each statement based on their feelings and perceptions about the statement on a Likert Scale of six-points. Sum of all the scores then reveal their satisfaction towards own body. Higher scores signify growing dissatisfaction towards one's body image with scores greater than 38 reflecting more concerns toward body image.

The scores have further been categorized into none, mild, moderate and high concerns (Elsherif & Abdelraof, 2018). Rosenberg Self-Esteem Scale with Cronbach Alpha 0.692 was used to evaluate the perception of self-worth and self-esteem of the responding individuals on scores between 0 and 30. Scores lesser than 15 are suggestive of low self-esteem while higher self-esteem is reflected by higher scores on the scale. Comprising of 10 items, it required the participants to respond to each statement in terms of their agreement on a four-point Likert Scale (Rosenberg, 1965). In addition, Academic Behavior Scale (Gupta,

2012) is an 18-item self-administered tool which was utilized to evaluate the behavior of the adolescents related to their own academics with a Cronbach Alpha of 0.799. Each question is supposed to be answered on the Likert Scale of 5 points ranging from never to always. Positive behavior is associated with higher scores of the questionnaire. To maintain the ethical aspects in the research process, data was collected for research purposes only after taking informed consent from study participants or their parents/guardians along with an assurance of maintaining confidentiality at all times.

Data analysis was done using SPSS 17th version. It included both, descriptive and inferential analysis of the data. It enabled the analysis through descriptive statistics like mean, frequency distribution, ranges and other dispersions in the data. Along with that, inferential analysis was carried out through Pearson correlation and multiple regression techniques. While Pearson correlation was used to evaluate the relationship between all three variables together, regression provided the means to test the study hypotheses. Multiple regression examined the relationship between the independent variables, body image and self-esteem, with the dependent variable, academic behavior and its significance was interpreted through p-value. Moreover, Barron and Kenny's step-by-step guidelines were followed to explore the mediating role of self-esteem in the relationship of body image satisfaction and academic behavior.

3. RESULTS

A total of 400 adolescent girls with an age range between 10 to 19 years old were a part of this study. Demographic data revealed that the mean age of participants was 15.04 ± 2.62 . Along with that, the BMI of the study population ranges between 12 and 38 with mean of 20.57 ± 4.01 . Moreover, 84.3% of the participant's BMI was below 25 while 13.6% had BMI between 25 and 29 and only 2.1% had BMI 30 and above. Figure 3 below, represents the BMI of study participants graphically.

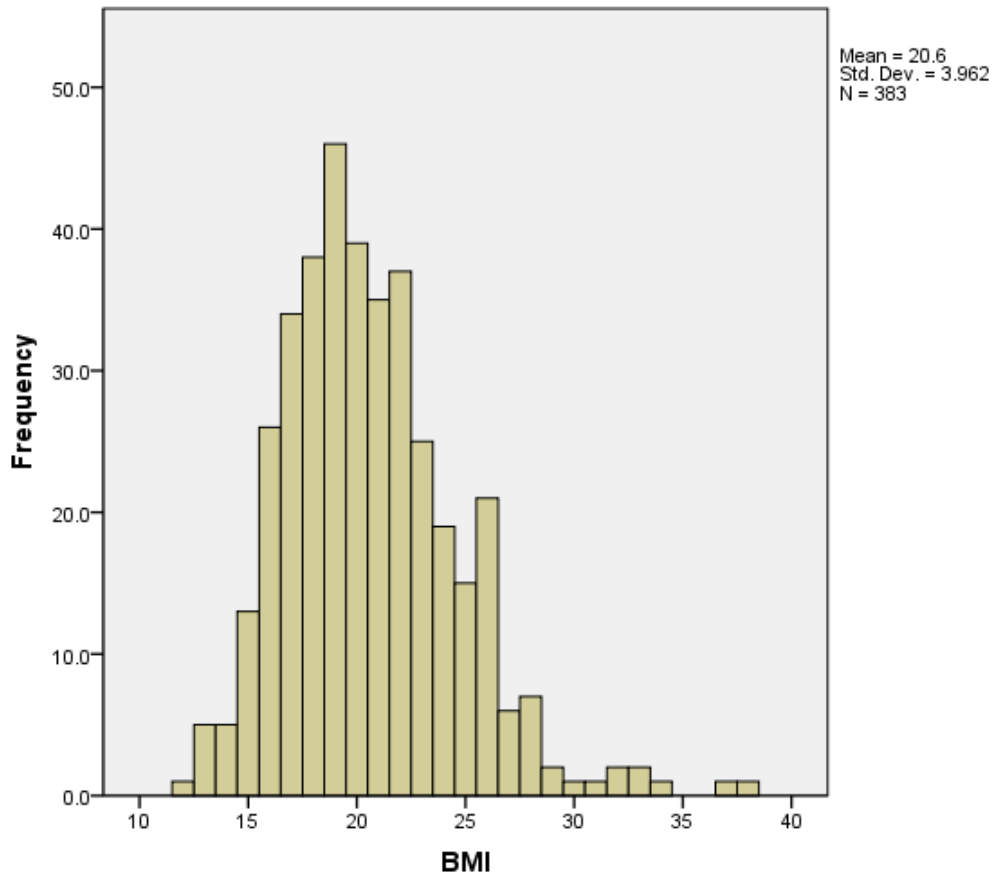


Figure 2: BMI – Frequency Distribution.

Besides, 77.8% of the participants were part of a voluntary institution that engages girls in various developmental activities while 22.2% did not belong to any such institution. Upon analysing the study variables for descriptive analysis, it was observed that the mean score of body image satisfaction was 34.45 ± 15.4 which reflects no concern with body image. Meanwhile, the overall Body Image Satisfaction scores ranged between 16 and 96 indicating that there were adolescent girls in the sample which had body image concerns categorized into mild, moderate and marked concerns. Further analysis shows that 65.5% of the study participants had no concern with body image, 20.3% reported mild concern, 11% had moderate concern and 3.2% had marked concern with their body images.

In addition, self-esteem scores from the study reflected that most kids had normal self-esteem with the mean of 19.53 ± 4.4 . However, there were 10.8% participants with low self-esteem scores in contrast to 78.7% adolescent girls with normal self-esteem and 10.5% with higher self-esteem. Furthermore, academic behavior scores of the study participants varied between 7 and 54 with the mean score of 35.6 ± 8.6 representing good academic behavior. Although there were 90.5% adolescent girls who scores

were beyond 50th percentile showing above average academic behavior as the scores increased, however, there were 9.5% girls with below average academic behavior.

Table 1 : Statistics

	Body Image Satisfaction Score	Self Esteem Score	Academic Behavior Score
Mean	34.45	19.53	35.61
Std. Deviation	15.46	4.40	8.68
Minimum	16.00	9.00	7.00
Maximum	96.00	30.00	51.00

Table 2: Categories

Variable	Categories	Interpretation	Percentage
Body Image Satisfaction Score	Less than 38	No Concern	65.5%
	38 to 51	Mild Concern	20.3%
	52 to 66	Moderate Concern	11%
	over 66	Marked Concern	3.2%
Self-Esteem Score	Less than 15	Low Self-Esteem	10.8%
	15-25	Normal Self-Esteem	78.7%
	Above 25	High Self-Esteem	10.5%

Inferential analysis started with Pearson correlation which indicated that a positive relationship exists between self-esteem and academic behaviour while a negative relationship exists between body image dissatisfaction and self-esteem. Along with that, a negative relationship was also observed between body image dissatisfaction and academic behaviour. The statistical significance of the relationships was concluded through $P < 0.05$.

Table 3 : Correlation

		Body Image Satisfaction Score	Self Esteem Score	Academic Behaviour Score
Body Image Satisfaction Score	Pearson Correlation	1	-.299**	-.257**
	Sig. (2-tailed)		.000	.000
	N	400	400	400
Self Esteem Score	Pearson Correlation	-.299**	1	.422**
	Sig. (2-tailed)	.000		.000
	N	400	400	400
Academic Behavior Score	Pearson Correlation	-.257**	.422**	1
	Sig. (2-tailed)	.000	.000	
	N	400	400	400

Regression analysis for hypothesis 1 that focused on the association between body image and self-esteem of adolescent girls in Karachi, Pakistan indicated a positive relationship between the two variables. The R square value of 0.089 denoted that 8.9% of the variation in self-esteem scores of girls is due to the body image satisfaction levels amongst adolescent girls. Moreover, the F score of 39.01 also signified presence of the said relationship between the two variables with $p < 0.05$. Additionally, table of coefficients showed that with every 1 unit increase in body image dissatisfaction, the self-esteem scores would decrease by 0.085 units. The results are statistically significant with $p < 0.05$ at 95% confidence interval. Hence, the null hypothesis was rejected with the conclusion that there is a negative association between the body image dissatisfaction and self-esteem of adolescent girls in Karachi, Pakistan.

Table 4: Regression Analysis of Body Image and Self-esteem

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.299 ^a	.089	.087	4.20891

a. Predictors: (Constant), Body Image Satisfaction Score

b. Dependent Variable: Self-esteem Score

ANOVA^b

Model	Sum Squares	of df	Mean Square	F	Sig.
Regression	691.089	1	691.089	39.012	.000 ^a
Residual	7050.551	398	17.715		
Total	7741.640	399			

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	95.0% Confidence Interval for B	
	B	Std. Error	Beta		Lower Bound	Upper Bound
(Constant)	22.461	.514		43.672	21.450	23.472
Body Image Satisfaction Score	-.085	.014	-.299	-6.246	-.112	-.058

a. Dependent Variable: Self-esteem Score

Hypothesis 2 revolved around the association of body image dissatisfaction and academic behaviour amongst the study population. Regression analysis showed that the R square value was 0.066, denoting that 6.6% of the variation in academic behaviour is due to the body image satisfaction scores. Along with that the F score of 28.26 denoted the relationship between the two variables with $p < 0.05$. Also, the table of coefficients showed that with 1 unit increase in body image dissatisfaction, the academic behaviour scores would decrease by 0.145 units and the results are statistically significant with $p < 0.05$ at 95% confidence interval. Hence, the null hypothesis was rejected concluding that there is a negative association between the body image dissatisfaction and academic behaviour of adolescent girls in Karachi, Pakistan.

Table 5 : Regression Analysis of Body Image and Academic Behavior

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.257 ^a	.066	.064	8.40694

a. Predictors: (Constant), Body Image Satisfaction Score

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1997.425	1	1997.425	28.261	.000 ^a
	Residual	28129.285	398	70.677		
	Total	30126.710	399			

a. Predictors: (Constant), Body Image Satisfaction Score

b. Dependent Variable: Academic Behaviour Score

Coefficients

Model		Unstandardized Coefficients		Standardized	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	40.598	1.027		39.519	.000	38.579	42.618
	Body Image Satisfaction Score	-.145	.027	-.257	-5.316	.000	-.198	-.091

a. Dependent Variable: Academic Behavior Score

For hypothesis 3, regression analysis to assess the association between self-esteem and academic behaviour derived the R square value to be 0.422, denoting that 42.2% of the variation in academic behaviour is due to self-esteem amongst adolescent girls. Also, the F score of 86.32 signified the presence of a strong relationship between the two variables with $p < 0.05$. Moreover, the table of coefficients showed that with every 1 unit increase in self-esteem scores, the academic behaviour scores would increase by 0.833 units. Results are statistically significant with $p < 0.05$ at 95% confidence interval. Hence, the null hypothesis was rejected concluding that there is an association between the self-esteem and academic behaviour of adolescent girls living in Karachi, Pakistan.

Table 6. Regression Analysis of Self-Esteem and Academic Behavior

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.422 ^a	.178	.176	7.88689

a. Predictors: (Constant), Self-esteem Score

ANOVA

		Sum	of			
Model		Squares	Df	Mean Square	F	Sig.
1	Regression	5369.896	1	5369.896	86.329	.000 ^a
	Residual	24756.814	398	62.203		
	Total	30126.710	399			

a. Predictors: (Constant), Self-esteem Score

b. Dependent Variable: Academic Behaviour Score

Coefficients

Model		Unstandardized		Standardized		95.0% Confidence	
		Coefficients		Coefficients		Interval for B	
		B	Std. Error	Beta	t	Sig.	
1	(Constant)	19.349	1.794		10.78	.000	15.822 22.877
	Self-esteem Score	.833	.090	.422	9.291	.000	.657 1.009

a. Dependent Variable: Academic Behaviour Score

For hypothesis 4, exploring the mediating role of self-esteem in the relationship between body image and academic behaviour, Barron and Kenny’s steps for mediation were utilized as guidance. The first three steps of the guidelines were satisfied in the initial three hypotheses. However, fourth step required the association between all three variables to be tested together. With multiple regression analysis the adjusted R square value was derived to be 0.193, denoting that 19.3% of the variation in academic behaviour is due to the body image dissatisfaction and self-esteem. Along with that the F score of 48.75 denoted the relationship

between the two variables with $p < 0.05$. The table of coefficients showed with 1 unit increase in body image dissatisfaction, the academic behavior scores would decrease by 0.081 units, whereas, with 1 unit increase in self-esteem, academic behavior of individuals would increase by 0.75 units.

These results proved presence of a partially mediated relationship between body image and academic behavior with self-esteem as the mediating variable. This is because, upon regressing all three variables together, the coefficient indicating the relationship between body image and academic behaviour did not reach zero which would have otherwise indicated a complete mediation by self-esteem. However, the impact of relationship between body image and academic behaviour decreased from 0.145 to 0.081 when mediation of self-esteem was analysed in the relationship. Hence, the null hypothesis was rejected concluding that self-esteem mediates the relationship between body image and academic behaviour of adolescent girls in Karachi, Pakistan.

Table 7 Regression between Body Image, Self-Esteem and Academic Behavior

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.444 ^a	.197	.193	7.80527

a. Predictors: (Constant), Self Esteem Score, Body Image Satisfaction Score

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5940.598	2	2970.299	48.756	.000 ^a
	Residual	24186.112	397	60.922		
	Total	30126.710	399			

a. Predictors: (Constant), Self Esteem Score, Body Image Satisfaction Score

b. Dependent Variable: Academic Behavior Score

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	23.801	2.295		10.369	.000	19.288	28.313
	Body Image Satisfaction Score	-.081	.026	-.144	-3.061	.002	-.133	-.029
	Self Esteem Score	.748	.093	.379	8.045	.000	.565	.931

a. Dependent Variable: Academic Behaviour Score

Additionally, the Sobel test was also conducted to confirm the mediation of the variable, self-esteem between the relationship of body image and academic behaviour. The p-value being less than 0.05 proved that the mediation was significant. Hence, it could be inferred that adding the variable of self-esteem does decrease the strength of the individual relationship between body image and academic behaviour.

Input:	Test statistic:	Std. Error:	p-value:
a -0.085	Sobel test: -6.26050405	0.01130979	0
b 0.833	Aroian test: -6.24077535	0.01134555	0
s _a 0.01	Goodman test: -6.28042104	0.01127393	0
s _b 0.09	Reset all	Calculate	

Figure 3: Sobel Test

4. DISCUSSION

The descriptive analysis of the study variables indicated positive results showing that majority of the study participants had no concern about their body image that were 65.5% of the sample size and 78.7% of the total study participants had normal self-esteem while 10.5% had higher self-esteem. Along with that 90.5% adolescents targeted in the study had above average academic behaviour. These positive results could be associated with the availability of multiple resources within the community which helps these adolescents develop positively. These resources include the active engagement activities specific to adolescents within their age groups across genders which help them develop confidence, showcase their talents and be recognized for non-physical aspects. Moreover, learning sessions for parents also enable parents to provide extensive social support to their child and respond to their developmental needs timely. These also align with the recommendation which Patton et al. (2016) gives to improve self-esteem and body image perception in adolescents.

Besides, as per the study results, 77.8% of the participants were part of girl scouts. This statistic could also be associated with satisfying body image perceptions and self-esteem in adolescent girls of the targeted community as the scouting engages girls in various developmental activities (WAGGGS, 2019). Moreover, the results can be attributed to the extensive support of family, peers and professionals within in the community whose positive impact has also been favored by Michael et al. (2014) in their study. However, there were still some results which were concerning and indicated the need of further analysis. There included the 34.5% adolescents who reported a certain level of body image concern categorized into mild, moderate and severe. Along with that, the self-esteem scores of 10.8% participants were concerning as they reported to have a low self-esteem and 9.8% had below average academic behavior scores. Further research to identify the contributing causes in accordance with the cultural implications will help direct the strategies of respective stakeholders.

The findings from the study concluded the presence of a negative relationship between body image dissatisfaction and self-esteem amongst adolescent girls. This was in alignment with many studies conducted in the past aiming to evaluate the relationship between the two mentioned variables amongst various age groups and ethnicities. For example, a study conducted in India catering the participants belonging from both, rural and urban areas concluded that body image was significantly related to their self-esteem regardless of gender and living in rural or urban areas (Tiwari, 2014). Similar findings of a strong relationship between body image satisfaction and self-esteem were reported in the study conducted on the adolescents in the western world, with an age ranging from 11 to 24 (vandenBerg et al., 2007). Ata et al (2007) , in their paper also indicated that adolescents with body image concerns are likely to be at a higher risk of low self-esteem.

Another finding from the study was the significant negative relationship between body image dissatisfaction and academic behavior. This result was congruent with other studies exploring the similar objective. In their study about the impact of overweight on the adolescent's development, Fonseca, Matos, Guerra and Pedro (2010) confirmed that a significant number of overweight adolescents had poor perception of academic performance and had a below average behavior towards academics. Moreover, a study relating the body image disturbance with academic achievement and eating disorders also concluded that increasing body image dissatisfaction can negatively impact the academic outcomes and behavior of the young individuals (Yanover & Thompson, 2008).

The analysis of the relationship between self-esteem and academic behavior confirmed the presence of a positive relationship between the two with self-esteem as the predictor of the later. Self-esteem is known to be a motivating factor to multiple behavioral outcomes such as academic behavior. As in this study, the finding of the positive relationship between the two variables was conclusive in many other studies as well, for example, the study conducted by Gupta (2012) targeting the Canadian adolescent students. Moreover, similar relationship was observed in the study conducted amongst adolescents of United States of America (Booth & Gerard, 2011).

Assessing the relationship between all three variables together concluded that there exists a strong relationship between body image and academic behavior with self-esteem as a mediator. The finding is similar to the study conducted on high school adolescents in Canada in both girls and boys ranging between grade seven to ten which proved a strong relationship existed between the three variables (Gupta, 2012). However, the role of mediation played by self-esteem in the relationship is an addition to the knowledge world. With statistics discussed above and the results of the study it is imperative for the relevant stakeholders, parents, school administrators and healthcare professionals, to take appropriate and timely actions for adolescents' wellbeing timely when they notice a change in an adolescent's academic behavior as it may be link to their disturbed body image and self-esteem.

Such actions will not only improve academic outcomes but will also serve as proactive approaches to uplift the health status of the society by timely intervening before the pre-determining factors take the shape of greater mental and/or physical health issues in future.

Additionally, more research in the future should be conducted to explore the association and impact of other variables on the current study variables. This would provide a vast dimension to the existing relationship, and guide and educate parents and healthcare professionals in a better way to improve the lives of adolescents around them.

The limitation of this study is that it only focuses on data of a selected community in Karachi, Pakistan. Hence, it is not representative of the entire adolescent population living in Karachi, Pakistan making the generalizability of results difficult on complete population. Besides, time limitation was another restriction of the research study. Overall, these limitations indicate the need of further research and more interventions to improve this study in future and make it more beneficial for the society and scientific pool of knowledge.

5. RECOMMENDATIONS

The findings from this study reflect that an adolescent girl's perception of her body image significantly contributes to her self-esteem and eventually to her academic behavior. This information is useful for stakeholders and influencers in the life of an adolescent girl. With the statistics discussed above and the results of the study, it is imperative for the relevant stakeholders to take appropriate and timely actions for adolescents' well-being. O'Dea (2012) also states that there is an urgent need for health and educational settings to act on body image and self-esteem-related concerns considering the adverse outcomes of both. With globalization, comes immense exposure and information from different parts of the world, which could impact the development of all three, body image satisfaction, self-esteem, and academic behavior of an adolescent in a positive and a negative way.

In contrast, this exposure of information also broadens the capacities, competencies, and the train of thought of the parents, teachers, educators and managers of Pakistan who once used to turn deaf ear to such social problems. But now, they acknowledge the importance of addressing the social needs of adolescents and relate the behavior of these young individuals around them to the social aspects of life.

Initially, parents who are by nature are responsible for the growth and development of their child, including the intellectual and social aspects, should focus on helping their child form a healthy body image and high self-esteem. Whenever observing a change in behavior or poor academic performance they can formulate a link of the outcomes with parameters like body image and self-esteem. Parents should be educated about the importance of them spending quality time with their adolescent girl along with the communication and attitude they demonstrate with their growing child. Parents can also become role models of active lifestyle

with healthy eating and positive thinking towards self. Moreover, their appraisals and positive remarks towards their adolescent girl's physical outlook and all sorts of achievements (including menial ones) can positively affect their child's development and ultimately their academics (Das, Salam, Lassi, Khan, Mahmood, Patel & Bhutta, 2016).

For health counsellors and medical professionals, including school health nurses at academic institutions, it is important to devise programs and interventions which address the mental health aspects of an adolescent girl's life at every stage. These could include sessions on psychological changes in the life of adolescents, mentoring of young girls by the elder ones, workshops and interactive discussions on the topics like self-esteem and body image. Developmentally appropriate events, discussions and interventions which focus on self-esteem and body image, explicitly or in a concealed way, could be a major driver towards positive development of the girls and enable them to be happy in their own self and strive for better, rather than sulking on unimportant factors which during a certain phase of life seem immensely important. Besides generic programs and events, these medical professionals and counsellors can capitalize on their trainings and skills to assess adolescent girls' behaviour around them and provide individual counselling focused on needs to promote emotional wellbeing and become confident about themselves (Weare, 2015).

These health counsellors and medical professionals are required to promote health of the students in a way which facilitates the academic outcomes (Gupta, 2012). Hence, based on the study's findings, the above-mentioned strategies of improving adolescent's mental health in terms of body image satisfaction and self-esteem would positively impact academic behaviour of adolescent girls and ultimately facilitate the counsellors and medical professionals to achieve their job requirements.

Additionally, educators and academic administrators can benefit from the study findings by considering mental health factors like self-esteem and body image dissatisfaction as contributing causes for poor academic behaviour and performance demonstrated by adolescent girls in their institution. WHO-AIMS report on mental health of adolescents in Pakistan, mentions that in 2009 'only 3% of primary and secondary

schools had either a part-time or full-time mental health professional, and none of the primary and secondary schools had school-based activities to promote mental health and prevent mental disorders' (WHO & Ministry of Health, Pakistan, 2009). Though recent data remains unavailable, yet, a general pulse of the country suggests an increase in the figures.

Therefore, if not done before, school authorities can hire a counsellor or healthcare professional at the facility and direct them towards the psychological wellbeing of the students. Moreover, parents and society expects academic institutions to develop children into independent individuals, who can positively contribute to society in the future and be confident in themselves regardless of society ideals (Gupta, 2012). Academic institutions can capitalize on their relationship with parents and building partnerships in improving the adolescent girls' body image, self-esteem and academic behaviour. These partnerships could be materialized through meetings, surveys, collaborative interventions, sharing of information, et cetera. Discouragement from body shaming and foul remarks at academic institutions and at home can also positively influence the desired behaviour and feelings of self-worth.

The strategies recommended cannot be only useful for improving academic outcomes, but these will also serve as proactive approaches by the healthcare professionals, parents and academic professionals to uplift the health status of the society in terms of psychological health. Moreover, for healthcare professionals, such a dimension of thinking will facilitate in noticing and timely intervening before the pre-determining factors take the shape of greater mental and/or physical health issues in future.

Additionally, more research in the future should be conducted to explore the association and impact of other variables on the current study variables. This would provide a vast dimension to the existing relationship, guide and educate parents, and healthcare professionals to improve the lives of adolescents around them. Moreover, longitudinal study approach can also be a useful way to further understand the variables and enrich the knowledge.

6. CONCLUSION

As per the study findings, body image, self-esteem and academic behavior of adolescent girls residing in Karachi, Pakistan are associated with each other. It was also concluded that higher body image dissatisfaction may lead to poor self-esteem which in turn decreases the positive academic behavior of the girls which is a pre-determinant of their performance in academics. Hence, it can be concluded that amongst the three variables of the study, body image eventually leads to the academic behaviour of adolescent girls with their self-esteem playing the role of a mediator between the relationships of the two.

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