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Research Article

Body Image in Adolescents and Its Relationship to Socio-Cultural Factors

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Abstract

This study was planned in order to analyze adolescent body image by age and gender, evaluate the relationship between adolescent body image and socio-cultural factors, and determine the extent to which variables such as age, gender, and Body Mass Index (BMI) can serve as predictors of the influential habits and strategies needed to achieve a better level of body satisfaction. Within this context, the data was collected using the following questionnaires: the Body Image and Body Size Variation Questionnaire; the Perceived Socio-Cultural Effects Concerning Body Image and Body Size Questionnaire; and a Data Form containing the demographic data. One thousand two hundred and eighty 7th, 8th, 9th, and 10th grade students were selected for the study using probabilistic, stratified, cluster sampling. The findings show a strong correlation between adolescent body image and socio-cultural factors, as well as between adolescent body image and the importance adolescents place on the media. From the regression analysis conducted using correlated variables, it was demonstrated that body satisfaction, habits and strategies with respect to body-building that pertain to adolescent body image can also be predicted by studying the attitudes and behaviours of the students' parents, peers, and the socio-cultural variables in evidence, such as the perceived effect of the media.

Keywords

Adolescent • Body image in adolescence • Body image • Socio-cultural factors in adolescents • Media

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Adolescents are typically in quest of their identity and sexual role and their bodies are dialectically related to their quests. Their identities and roles are built and formed meticulously through life events, unknown and mysterious incidents, sexual maturation, and other indications of the transition to adolescence (Birroux, 1990 as cited in Ferron, 1997). Ferron (1997) argues that body image is cognitively related to muscle and kinaesthetic senses. Body image is significant, especially during adolescence and the development of relationships with other people (Cash & Pruzinsky, 2002).

Interest in body image in psychology and sociology emerged in 1920 through a study conducted by Paul Schilder. Schilder was the first researcher to conduct studies related to body image in the fields of psychology and sociology (Schilder, 1920 as cited in Grogan, 2008). Schilder (1950) defines body image as the “picture we form of our body in our mind”. According to Evans, Roy, Geiger, Werner, and Burnett (2008), body image is naturally a multidimensional individual concept.

The exhibition of factors related to the concept of body image is important in comprehending the meaning of body image. In this context, personal habits during childhood and adolescence and healthy self-perception are affected by numerous environmental factors at both the macro and micro levels. Such factors also include social acclamations aimed at sound selections, opportunities for acquiring new habits, attitude and behaviour with regard to eating, and exercises patterned by parents, teachers, peers, and physical appearance (Evans, Roy, Geiger, Werner, & Burnett, 2008).

Gender is one of the factors considered influential in terms of adolescent body image. Similarities and differences can be seen in how adolescent boys and girls contemplate body image. The girls prefer a slimmer look compared to boys (McArthur, Holbert, & Pena, 2001). Moreover, adolescent girls are inclined to be more attractive in comparison to boys (Cash & Pruzinsky, 2002). Physical development and appearance are closely related to adolescents’ emotions about themselves. From age 12-14, both girls and boys have to cope with the fastest and most important changes they will ever experience in relation to how their bodies will change over their lifetimes. Their bodies not only grow faster, but also are accompanied by changes in their general ratios (Adams, 1995).

It is observed that adolescent girls tend to compare themselves to the social media models as they get older and their awareness of socio-cultural attitudes increases. They also display the tendency to internalize slimness ideals, as is evident from declining body satisfaction and self-perception. Such decline in self-perception experienced as they grow older is partially correlated with their downward tendency in body satisfaction. The decline in body satisfaction is entirely correlated with increased awareness of socio-cultural attitudes pertaining to appearance and an increase in social comparison as they age (Clay, Vignoles, & Dittmar, 2005).

Media has a significant influence on both girls and boys during preadolescence and adolescence. Generally, girls express that they feel more pressure from the media in comparison to boys (Ata, Ludden, & Lally, 2007). Derenne and Beresin (2006) state that media disseminates misleading and unrealistic information regarding physical beauty. These authors also indicate that this situation is of a complex nature, and political structure and cultural values have been influential on women's bodies throughout the history. However, today's media (television, internet, films and printed materials) is considered to be creating the largest impact.

The number of studies in Turkey on adolescents' perception of their body image and physical appearance are limited (Aşçi, 2002; Aşçi, Gökmen, Tiryaki, & Aşçi, 1997; Çağlar, 2009; Canpolat, Orsel, Akdemir, & Ozbay, 2005; Cok, 1990; Göksan, 2007). For this reason, this study was planned to analyze adolescent body image in our country in terms of age and gender, evaluate the relationship of socio-cultural factors with adolescent body image, and determine the extent through which such factors can be used in predicting variables related to body image.

Method

Sample

This study was conducted in the city centre of Ankara, and consists of data from secondary and high schools located in the following counties: Altındağ, Yenimahalle, Keçiören, Çankaya, Mamak, Sincan, Etimesgut and Gölbaşı.

Survey sampling was designed based on a probabilistic, stratified, cluster sampling approach. The 13-16 year age groups were assumed to be attending 7th and 8th grades in secondary schools and 9th and 10th grades in high schools. In total, 1280 pupils were selected from grades 7, 8, 9, and 10, and consisted of a gender distribution of 160 males and 160 females at each grade level.

Data Collection Tools

Body Image and Body Size Variation Questionnaire (BIBSVQ). The original BIBSVQ consists of eight sections: Body Image Satisfaction, Importance Attached to Body Image, Dietary Habits, Use of Food Supplements (Weight-Reducing Pills, Vitamins, Steroids, etc.) (this part was not incorporated into our study on the grounds that the use of such food supplements are neither prevalent in our country in general, nor in children of the age group included in our study), Strategies Aimed at Gaining Weight, Strategies Aimed at Losing Weight, and Body-Building Strategies Related to Tightening Muscle Structure. Internal consistency of the original questionnaire was ($\alpha > .92$) and test-retest confidence ($r > .75$) was high (McCabe & Ricciardelli, 2003). The questionnaire was translated into

Turkish by researchers and the internal consistency coefficient was calculated by conducting a factor analysis. Upon the confirmatory factor analysis, the sub-sections of Body-Building Strategies Related to Tightening Muscles and Body-Building Strategies Related to Muscle Structure were merged based on the fact that factor loads turned out to be different from each other wherever above strategies were different from the original questionnaire. The internal consistency of the sub-dimensions of the questionnaire were calculated as $\alpha = 0.92$ for Body Image Satisfaction, and $\alpha = 0.93$ for Importance Attached to Body Image, $\alpha = 0.93$ for Dietary Habits, $\alpha = 0.96$ for Strategies aimed at Gaining Weight, $\alpha = 0.95$ for Strategies aimed at Losing Weight, and finally, $\alpha = 0.96$ for Strategies related to Tightening and Strengthening Muscles, respectively. The general internal consistency coefficient of the questionnaire was calculated as a high figure ($\alpha > .90$) in conformity with the original study. All questions contained in the questionnaire were responded to using the Five Point Likert Type for all sections. The sub-section, Body Image Satisfaction, was comprised of 10 items containing questions such as “Are you content with the shape of your body?” The section for Importance attached to Body Image was comprised of 10 items containing questions like “How important is your weight to you compared to other things in your life? The section entitled Dietary Habits was comprised of 9 items containing questions like “In what frequency do you eat a square meal in a hurry? The section entitled Strategies Aimed at Gaining Weight consists of 9 items containing questions like “In what frequency do you eat more to gain weight? The section for Strategies Related to Losing Weight was comprised of 9 items containing questions like “In what frequency do you eat less to lose weight?” and the section named Strategies Related to Tightening and Strengthening Muscles was comprised of 12 items containing questions like “In what frequency do you exercise to enhance the tightness of your muscles?”.

Body Image and Perceived Socio-Cultural Effects concerning the Variation of Body Size questionnaire. This questionnaire consists of 5 sections: (1) Feedback from Father, (2) Feedback from Mother, (3) Feedback from the Closest Girlfriend, (4) Feedback from the Closest Boyfriend, (5) Effect of Media. The original questionnaire has a high internal consistency value ($\alpha > .84$) (McCabe & Ricciardelli, 2003). This questionnaire was also translated into Turkish by the researchers and the internal consistency coefficient was calculated by conducting a factor analysis. The internal consistency coefficient of the Turkish questionnaire was found to be highly parallel to the original study ($\alpha > .92$). The consistency coefficients for the sub-sections of the questionnaire are; $\alpha = 0.73$ for Feedback from Father, $\alpha = 0.72$ for Feedback from Mother, $\alpha = 0.82$ for Feedback from the Closest Girlfriend, $\alpha = 0.86$ for Feedback from the Closest Boyfriend and $\alpha = 0.73$ for Effect of Media. Other sections, including Feedback from Father, Feedback from Mother, Feedback from Closest Girlfriend, and Feedback from the Closest Boyfriend included questions such as “Does your Father/Mother/Closest Girlfriend/Closest Boyfriend make efforts to gain weight?” that are answered using the Five Point Likert Type options consisting of 13 items.

The section Effect of Media consists of 10 items containing questions like “Does Media make you think that you should eat less to lose weight?” that are answered through Five Point Likert Type options.

Process

Under the study, eight secondary schools and eight high schools incorporated in the sample group were visited, and the pupils from grades seven, eight, nine, and 10 agreed to fill out the information forms containing demographic data such as age, weight and height, BIBSVQ, and the Body Image and Perceived Socio-Cultural Effects concerning Body Size Questionnaire (SCEQ) (McCabe & Ricciardelli, 2003). Students were provided with the forms and questionnaires and asked to fill them out within a single course hour.

Results

In Table 1 and Table 2, the correlation between the variables measured by SCEQ (comments and attitude of the father, mother, closest girlfriend and closest boyfriend

Table 1

Correlation of Variables of Socio-Cultural Effects and Variables of Body Size Variation (Body Image Satisfaction and Body Image Importance) and Gender, Age, Body Mass Index (BMI)

Body Image/ Body Size Socio-Cultural Effects		Age	BMI	Body Image Satisfaction	Body Image Importance
Comments of Father	Girl	0.11*	0.12*	0.19*	0.20*
	Boy	0.11*	-0.02	0.20*	0.23*
Attitude of Father about losing weight	Girl	0.18*	-0.13*	-0.16*	0.14*
	Boy	0.21*	-0.18*	-0.20*	0.14*
Attitude of Father about gaining weight	Girl	0.14*	0.26*	0.05	0.10*
	Boy	0.21*	0.17*	-0.01	0.12*
Comments of Mother	Girl	0.13*	0.13*	0.25*	0.16*
	Boy	0.06	-0.03	0.19*	0.27*
Attitude of Mother about losing weight	Girl	0.15*	-0.19*	-0.18*	0.15*
	Boy	0.22*	-0.16*	-0.05*	0.20*
Attitude of Mother about gaining weight	Girl	0.14*	0.31*	0.12*	0.10*
	Boy	0.17*	0.15*	0.02*	0.17*
Comments of Closest Girlfriend	Girl	0.06*	0.07*	0.25*	0.25*
	Boy	-0.02*	-0.04*	0.15*	0.23*
Attitude of Closest Girlfriend about losing weight	Girl	0.10*	-0.14*	-0.14*	0.18*
	Boy	0.15*	-0.14*	0.01*	0.18*
Attitude of Closest Girlfriend about gaining weight	Girl	0.16*	0.22*	0.06	0.10*
	Boy	0.16*	0.02*	0.06	0.15*
Comments of Closest Boyfriend	Girl	-0.05*	0.08*	0.16*	0.25*
	Boy	0.05*	0.03*	0.17*	0.32*
Attitude of Closest Boyfriend about losing weight	Girl	0.00	-0.09*	-0.09*	0.16*
	Boy	0.09*	-0.18*	-0.10*	0.23*
Attitude of Closest Boyfriend about gaining weight	Girl	-0.01*	0.09*	0.01	0.13*
	Boy	0.07*	-0.10*	0.06	0.21*
Effect of Media on losing Weight	Girl	-0.03*	-0.38*	-0.31*	0.19*
	Boy	0.11	-0.29*	-0.14*	0.13*
Effect of Media on gaining Weight	Girl	0.09*	0.25*	0.12*	0.06*
	Boy	0.07	0.08	0.02	0.16*
Effect of Media on gaining Weight	Girl	0.14*	0.06	0.01	0.11*
	Boy	0.05	-0.15*	-0.03	0.23*

* $p < 0.05$.

about gaining weight and losing weight, as well as effect of media perceived in relation to gaining and losing weight) and variables of age, BMI, and BIBSVQ (body satisfaction, importance attached to body appearance, dietary habits, strategies employed for gaining and losing weight and strategies related to tightening and strengthening muscles) are exhibited separately for girls and boys who participated in the study.

Table 2

Correlation of Variables of Socio-Cultural Effects and Variables of Body Image and Body Size Variation (Dietary Habits, Strategies related to Gaining and Losing Weight and Tightening and Strengthening Muscles)

Body Image/ Body Size		Dietary Habits	Strategy related to Losing Weight	Strategy re- lated to Gain- ing Weight	Strategies related to Tightening and Strengthening Muscles
Socio-Cultural Effects					
Comments of Father	Girl	0.08*	0.12*	0.06	0.09*
	Boy	0.08	0.17	0.06	0.22*
Attitude of Father about losing weight	Girl	0.17*	0.31*	0.18*	0.32*
	Boy	0.25*	0.49*	0.25*	0.37*
Attitude of Father about gaining weight	Girl	0.19*	0.06*	0.34*	0.29*
	Boy	0.28*	0.25*	0.43*	0.39*
Comments of Mother	Girl	0.01	0.05	-0.02	0.03
	Boy	0.12*	0.23	0.08*	0.22*
Attitude of Mother about losing weight	Girl	0.22*	0.40*	0.21*	0.35*
	Boy	0.28*	0.44*	0.28*	0.30*
Attitude of Mother about gaining weight	Girl	0.18*	-0.00	0.40*	0.30*
	Boy	0.32*	0.23*	0.41*	0.34*
Comments of Closest Girlfriend	Girl	0.10*	0.13*	0.03	0.09*
	Boy	0.20*	0.17*	0.16*	0.21*
Attitude of Closest Girlfriend about losing weight	Girl	0.28*	0.37*	0.24*	0.38*
	Boy	0.35*	0.43*	0.32*	0.32*
Attitude of Closest Girlfriend about gaining weight	Girl	0.29*	0.14*	0.37*	0.36*
	Boy	0.36*	0.33*	0.42*	0.31*
Comments of Closest Boyfriend	Girl	0.11*	0.10*	0.10*	0.19*
	Boy	0.22*	0.22*	0.22*	0.29*
Attitude of Closest Boyfriend about losing weight	Girl	0.28	0.27*	0.27*	0.32*
	Boy	0.44	0.49*	0.33*	0.40*
Attitude of Closest Boyfriend about gaining weight	Girl	0.30*	0.17*	0.37	0.32*
	Boy	0.45*	0.38*	0.42	0.40*
Effect of Media on losing Weight	Girl	0.18*	0.53*	0.04*	0.22*
	Boy	0.35*	0.54*	0.18*	0.28*
Effect of Media on gaining Weight	Girl	0.22*	0.22*	0.29*	0.47*
	Boy	0.28*	0.37*	0.22*	0.36*
Effect of Media on gaining Weight	Girl	0.22*	0.22*	0.29*	0.47*
	Boy	0.28*	0.37*	0.22*	0.36*

* $p < 0.05$.

A review of the results in Table 1 and Table 2 reveals a significant but weak correlation between fathers' comments about adolescents and body image satisfaction of adolescents, importance they attach to body image, their dietary habits, strategies related to losing and gaining weight, and strategies related to tightening and strengthening muscles. A glance by gender indicates a significant but weak correlation between BMI, body image satisfaction, importance attached to body image, dietary habits, strategies related to losing weight, strategies related to tightening and strengthening muscles (for girls), and body image satisfaction, importance attached to body image, strategies related to losing weight, strategies related to tightening and strengthening muscles and fathers' comments (for boys). According to another obtained result, a significant but weak

correlation was detected between mothers' comments body image satisfaction, and importance attached to body image for both genders; whereas the relationship between the dietary habits, strategies related to losing and gaining weight, and strategies related to tightening and strengthening muscles were found to be significant for girls; however, a significant but weak correlation was established between these variables and mothers' comments for boys.

A significant but weak correlation was established among girls for the strategies of adolescents related to losing weight and fathers' attitudes about losing weight, and a significant correlation at a medium level was discovered to exist for the same variables among boys. A significant but weak correlation was observed in girls between strategies of adolescents for gaining weight and fathers' attitudes about gaining weight, whereas this correlation is significant and at a medium level among boys. In addition, a significant but weak correlation was found to exist between the body image satisfaction of adolescents and fathers' attitudes about losing weight. While there is a significant but weak correlation between the adolescents' body image satisfaction and mothers' attitudes toward losing and gaining weight in girls, no significant correlation was established for the same variables with boys. Although there exists a significant correlation at a medium level for both girls and boys between the strategies related to losing weight and mothers' attitudes about losing weight, there is no significant correlation between the foregoing strategies and mothers' attitudes about gaining weight for girls, but there is a significant but weak correlation in the same variables for boys.

For both genders, in spite of a significant but weak correlation between the comments of the closest girlfriend and variables of body image satisfaction, importance attached to body image, dietary habits, strategies related to losing weight, tightening and strengthening muscles, an insignificant but weak correlation was established between the strategies related to gaining weight and comments of the closest girlfriend for girls, whereas such correlation is significant but weak for boys for the same variables.

A significant and medium level correlation was discovered between the attitudes of the closest boyfriends about losing weight and dietary habits and strategies related to losing weight for boys, and the correlation is significant but weak for girls.

In both girls and boys, a significant but weak correlation was established between the attitudes of the closest boyfriends about gaining weight and importance attached to body image, strategies related to losing weight, and strategies related to tightening and strengthening muscles. There exists a significant but weak correlation for girls between BMI and attitudes of closest boyfriends about gaining weight.

While a significant correlation at a weak level was identified for both girls and boys between the effect of media on losing weight, importance attached to body

image, dietary habits, strategies related to gaining weight, and strategies related to tightening and strengthening muscles, a significant correlation at a medium level was displayed between the effect of media on losing weight and strategies related to losing weight for both genders. A significant but weak correlation was established between the effect of media on gaining weight and strategies related to tightening and strengthening muscles. The effect of media on gaining weight and strategies related to gaining weight exhibits a significant correlation at a medium level for both girls and boys. Moreover, a significant but weak correlation was established between the effect of media on gaining weight and strategies related to losing weight for boys, whereas no significant correlation was found for girls.

Although a significant but weak correlation exists between the effect of media on muscle development and importance attached to body image, dietary habits, and

Table 3
Regression Analysis of Socio-Cultural Factors (Feedback from Fathers and Mothers, Feedback from the Closest Girl/Boyfriend and Effect of Media) that affect Sub-Factors in Body Image and Body Size Variation Questionnaire for Girl Adolescents

Dependent Variable	F(p)	R ²	Descriptive Variables	Standardize β	p
Body Image Satisfaction	42.63 (0.00)	0.29	BMI	0.25	0.00*
			Comments of Girlfriend	0.19	0.00*
			Media losing weight	-0.23	0.00*
			Father losing weight	-0.12	0.00*
			Comments of Mother	0.13	0.00*
			Media gaining weight	0.10	0.01*
Importance attached to Body Image	20.87 (0.00)	0.12	Comments of Girlfriend	0.16	0.00**
			Media losing weight	0.16	0.00*
			Comments of Boyfriend	0.13	0.00*
			Girlfriend losing weight	0.10	0.02*
Dietary Habits	24.44 (0.00)	0.13	Boyfriend gaining weight	0.19	0.00*
			Girlfriend losing weight	0.15	0.00*
			Media gaining weight	0.11	0.01*
			Media losing weight	0.10	0.02*
Strategies related to losing weight	37.74 (0.00)	0.35	Media losing weight	0.35	0.00*
			Mother losing weight	0.27	0.00*
			Mother gaining weight	-0.18	0.00*
			Girlfriend losing weight	0.10	0.02*
			Boyfriend losing weight	0.09	0.03*
Strategies related to gaining weight	79.12 (0.00)	0.27	Media gaining weight	0.26	0.00*
			Boyfriend gaining weight	0.23	0.00*
			Mother gaining weight	0.21	0.00*
Strategies of Tightening and Strengthening muscles	41.95 (0.00)	0.28	Media muscle	0.29	0.00*
			Girlfriend losing weight	0.12	0.01*
			Mother losing weight	0.15	0.00*
			Boyfriend gaining weight	0.08	0.06*
			Comments of Boyfriend	0.09	0.02*
			Father gaining weight	0.07	0.05*

*p < 0.05.

strategies related to losing and gaining weight for both girls and boys, no correlation was established between the effect of media on muscle development and body satisfaction.

For the results demonstrated in Tables 1 and 2, a multiple regression analysis was conducted using a step-by-step method to ascertain the socio-cultural variables that are related to the variables of Body Image and Body Size at a statistically significant level and variables of age and BMI. The results of such analysis are provided in Table 3.

A glance at the R^2 values that explain the prediction ratios of the descriptive variables in Table 3 exhibits a variation of such ratios from 12% to 25%. Furthermore, the effect measured for all variables is observed to be significant at a level of $p < .05$.

Body image satisfaction in adolescent girls is observed to be explained at the rate of 29% by means of the regression model established. A review of the variables included in the analysis reveals that BMI ($\beta = 0.25$) is the most descriptive, whereas the effect of Media on losing weight is the least descriptive ($\beta = 0.11$). The BMI is followed by comments of the closest girlfriends, effect of media on losing weight, fathers' attitudes about losing weight, and mothers' attitudes about losing weight, respectively.

The importance placed on body image in girl adolescents is established to be explained at the rate of 12% through the regression model. A review of the variables included in the analysis reveals that comments of the closest girlfriend and effect of media on losing weight is the most descriptive ($\beta = 0.16$), whereas attitudes of the best girlfriend on losing weight is the least descriptive ($\beta = 0.10$). The comments of the closest girlfriend and effect of media on losing weight is followed by the comments of the closest boyfriend.

The dietary habits of adolescent girls are established to be explained at the rate of 13% through the regression model. The review of the variables included in the analysis reveals that the attitude of the closest boyfriend about gaining weight is the most descriptive ($\beta = 0.19$), whereas the effect of media on losing weight is the least descriptive ($\beta = 0.10$). The attitude of the closest boyfriend about gaining weight is followed by the attitude of the closest girlfriend and effect of media on losing weight, respectively.

Whether adolescent girls employ strategies aimed at losing weight is said to be explained at the rate of 35% through the established regression model. The review of the variables included in the analysis reveals that the effect of the media on losing weight is the most descriptive ($\beta = 0.35$), whereas the attitude of the closest boyfriend about losing weight is the least descriptive ($\beta = 0.09$). The effect of media on losing weight is followed by the mothers' attitudes about losing and gaining weight and the attitude of the closest boyfriend about losing weight.

Whether adolescent girls employ strategies related to gaining weight is observed to be explained at the rate of 27% through the established regression model. The review of

the variables included in the analysis reveals that the effect of media on gaining weight is the most descriptive ($\beta = 0.26$), whereas the mothers' attitudes about gaining weight is the least descriptive ($\beta = 0.21$). The effect of the media on gaining weight is followed by the attitude of the closest boyfriend about gaining weight.

Whether adolescent girls employ the strategies related to tightening and strengthening muscles is understood to be explained at the rate of 28% through the established regression model. The review of the variables included in the analysis is the most descriptive ($\beta = 0.29$), whereas the fathers' attitudes about gaining weight is the least descriptive ($\beta = 0.07$). The effect of media related to muscle development is followed by the attitude of the closest girlfriend about losing weight, mothers'

Table 4
Regression Analysis of Socio-Cultural Factors (Feedback from Fathers and Mothers, Feedback from the Closest Girl/Boyfriend and Effect of Media) that affect the Sub-Factors in Body Image and Body Size Variation Questionnaire for Boy Adolescents

Dependent Variable	F(p)	R ²	Descriptive Variables	Standardize β	p
Body Image Satisfaction	15/22 (0.00)	0.15	BMI	0.11	0.01*
			Media losing weight	0.13	0.00*
			Father losing weight	-0.16	0.00*
			Comments of Father	0.21	0.00*
			Girlfriend gaining weight	0.19	0.00*
			Boyfriend gaining weight	-0.18	0.00*
			Comments of boyfriend	0.17	0.00*
Importance attached to Body Image	30.31 (0.00)	0.13	Comments of Boyfriend	0.28	0.00*
			Media gaining weight	0.10	0.03*
			Media losing weight	0.17	0.00*
			Girlfriend gaining weight	0.11	0.02*
Dietary Habits	47.10 (0.00)	0.24	Boyfriend gaining weight	0.28	0.00*
			Media gaining weight	0.10	0.03*
			Media losing weight	0,17	0.00*
			Girlfriend gaining weight	0.11	0.02*
Strategies related to losing weight	71.18 (0.00)	0.42	Media losing weight	0.30	0.00*
			Boyfriend losing weight	0.22	0.00*
			Father losing weight	0.35	0.00*
			Father gaining weight	-0.16	0.00*
			Age	0.08	0.02*
			Comments of Mother	0.07	0.05*
			Media gaining weight	0.19	0.00*
Strategies related to gaining weight	44.45 (0.00)	0.31	Boyfriend gaining weight	0.18	0.00*
			Father gaining weight	0.31	0.00*
			Father losing weight	-0.10	0.07*
			Girlfriend gaining weight	0.32	0.00*
			Girlfriend losing weight	-0.21	0.02*
			Media muscle	0.19	0.00*
Strategies of Tightening and Strengthening muscles	51.43 (0.00)	0.26	Father gaining weight	0.26	0.00*
			Boyfriend gaining weight	0.19	0.00*
			Comments of Father	0.08	0.02*

* $p < 0.05$.

attitudes about losing weight, the attitude of the closest boyfriend on gaining weight and fathers' attitudes about gaining weight, respectively.

A multiple regression analysis was conducted using a step-by-step method in order to ascertain by which of the variables that the body satisfaction level, importance placed on body appearance, and dietary habits of adolescent boys and whether adolescent boys employ strategies related to losing and gaining weight, and strategies related to tightening and strengthening muscles is explained in the previous tables at statistically significant levels. The results of these analyses are provided in Table 4.

A glance at the R^2 values that explain the prediction ratios of the descriptive variables in Table 3 demonstrates that such ratios vary from 13% to 42%. Furthermore, the effect measured for all variables is observed to be significant at a level of $p < 0.05$.

Body image satisfaction in adolescent boys is observed to be explained at the rate of 15% by means of the established regression model. A review of the variables included in the analysis reveals that fathers' comments ($\beta = 0.21$) is the most descriptive, whereas BMI is the least descriptive ($\beta = 0.11$). The fathers' comments variable is followed by the attitude of the closest girlfriend about gaining weight, the attitude of the closest boyfriend about gaining weight, the comments of the closest boyfriend, the fathers' attitudes about losing weight, and the effect of media on losing weight, respectively.

The established regression model can be said to explain the importance attached to body image at the rate of 13%. The review of the variables included in the analysis reveals that the comments of the closest boyfriend is the most descriptive ($\beta = 0.22$), whereas the effect of media on muscle development is the least descriptive ($\beta = 0.13$). The comments of the closest boyfriend are followed by the mothers' comments.

The dietary habits of adolescent boys can be explained at the rate of 24% through the established regression model. The review of the variables incorporated in the study reveals that the attitude of the closest boyfriend about gaining weight is the most descriptive ($\beta = 0.28$), whereas the effect of media on gaining weight is the least descriptive ($\beta = 0.10$). The attitude of the closest boyfriend about gaining weight is followed by the effect of the media on losing weight and the attitude of the closest girlfriend about gaining weight.

The established regression model explains at the rate of 42% whether adolescent boys employ strategies related to losing weight. The review of the variables included in the analysis reveals that the fathers' attitudes about losing weight is the most descriptive ($\beta = 0.35$) while the mothers' comments variable is the least descriptive ($\beta = 0.07$). The fathers' attitudes relating to losing weight is followed by the attitude of the closest boyfriend about losing weight, and the fathers' attitudes about gaining weight and age, respectively.

Whether adolescent boys employ strategies related to gaining weight can be explained by the established regression model at the rate of 31%. The review of the variables included in the analysis exhibits that the attitude of the closest girlfriend about gaining weight is the most descriptive ($\beta = 0.32$), whereas the fathers' attitudes about losing weight is the least descriptive ($\beta = 0.10$). The attitude of the closest girlfriend about gaining weight is followed by the attitude of the closest girlfriend about losing weight and the attitude of the closest boyfriend about gaining weight.

The established regression model explains whether adolescent boys use the strategies related to tightening and strengthening the muscles at the rate of 26%. The review of the variables incorporated in the analysis reveals that the fathers' attitudes about gaining weight is the most descriptive ($\beta = 0.26$), whereas the fathers' comments variable is the least descriptive ($\beta = 0.08$). The fathers' attitudes about gaining weight is followed by effect of the media on muscle development and the attitude of the closest boyfriend about losing weight.

Discussion and Conclusion

This study demonstrates that adolescents' body satisfaction, importance they place on body appearance, and dietary habits do influence making changes in the body appearance, gaining and losing weight, and whether they employ strategies aimed at tightening and strengthening muscles. These variables may be predicted by associating them with the socio-cultural factors such as age, BMI, and effects of mothers, fathers, closest friends and media.

In predicting the body satisfaction of adolescents, we found that BMI, effect of media, and mothers' and fathers' comments and attitudes, along with the comments and attitudes of the closest boyfriends and girlfriends, are influential on young girls. It may be further argued that BMI, fathers' comments and attitudes, and the comments and attitudes of the closest boyfriends and girlfriends are influential. This may indicate that adolescent body satisfaction is indeed influenced by mothers' and fathers' comments and attitudes. A similar comment on adolescent body image is made by [Rodgers and Chabrol \(2009\)](#) who have already reviewed the myriad of studies conducted to this end. When such result is studied in terms of the differences between girls and boys, the body satisfaction of boys is not considered to be associated with mothers' comments or attitudes. Such results may be interpreted as young boys not referencing their mothers' comments or attitudes with respect to their body satisfaction. Similarly, [Baker, Whisman, and Brownell \(2000\)](#) also argue young boys' behaviours as related to eating and body-building are associated with fathers' comments and attitudes. As a comment in parallel to the above result, it is argued that adolescents experience hardship in speaking out about the dissatisfaction about

their weight to their fathers, whereas they seldom have a difficulty in sharing such dissatisfaction with their mothers (Al Sabbah et al., 2009). Similarly, the predictive effect of the media on adolescent body satisfaction is demonstrated by various other studies (Anschutz, Engels, Leeuwe, & Strien, 2009; Clay et al., 2005; Cusumano & Thompson, 2001; Dohnt & Tiggemann, 2006a, 2006b; Harrison & Hefner, 2006; McNicholas, Lydon, Lennon, & Dooley, 2009). These studies show how the media affects the variable of body satisfaction more adversely. For instance, Anderson et al. (2001) argue that adolescent body image is inversely proportional to the number of entertainment programs they watch on television. This result can also be associated with the excellent body sizes and ideal model examples broadcast by the media.

In predicting the importance placed by adolescents on body appearance, the comments and attitudes of the closest girlfriends and comments of the media and closest boyfriends can be said to serve as a predictor for young girls. For young boys, the comments of the closest boyfriends, as well as of the media and mothers can be said to have a predictive effect. The argument that the peers and media are influential in predicting the importance placed by adolescents on body appearance is not surprising when considering similar results in the existing body of literature (Anderson et al., 2001; Grabe & Hyde, 2009; Hutchinson & Rapee, 2007; Polce-Lynch, Myers, Kliewer, & Kilmartin, 2001). The result that indicates the influence of mothers' comments in predicting the importance attached by young boys to body appearance is surprising compared to young girls. This may be interpreted as young boys taking their mothers' comments into consideration with regard to placing importance on body appearance.

The comments of the closest boyfriends and girlfriends about weight and the effect of the media on weight stand as predictors for adolescent dietary habits for young girls. For young boys, the attitudes of the closest boyfriends and girlfriends, as well as the effect of media on losing weight stand as the best predictors. It may also be stated that the closest friends and media have a distinct influence in predicting adolescents' dietary habits. Numerous studies demonstrate that the media (Dunkley, Wertheim, & Paxton, 2001; Dohnt & Tiggemann, 2005, 2006) and peers (Dohnt & Tiggemann, 2005, 2006b; Dunkley et al., 2001) are influential with respect to dietary habits. Based upon the results of this study, the media may be said to have a similar influence on both young girls and boys, contrary to what is argued in similar studies (Dohnt & Tiggemann, 2005, 2006a). Different than this study, Ata, Ludden, and Lally (2007) assert that adolescents who are spoken to in a bantering tone about losing weight by their families exhibit more adverse eating habits and behaviours.

The effect of media, mothers' attitudes, and attitudes of closest boyfriends and girlfriends are observed to have a predictive effect for young girls in predicting whether

adolescents employ body shaping strategies like those strategies related to losing and gaining weight and tightening and strengthening muscles. The effect of media on losing weight, the attitudes of the closest boyfriends about losing weight, fathers' attitudes about gaining weight, age, and mothers' comments all have a predictive effect for young boys. The fact that the perceived influence of media has a predictive effect may be construed as an ordinary result. Although many studies argue that the media has greater influence on young girls (Clay et al., 2005; Dohnt & Tiggemann, 2006a, 2006b; Jones, Vigfusdottir, & Lee, 2004), this study demonstrates that the media has a similar influence on both girls and boys in predicting whether adolescents use strategies related to shaping their bodies. Similarly, the effect of the attitudes of their peers serves as a predictor for both young girls and boys. While mothers' attitudes have a predictive effect as to whether young girls employ strategies related to shaping body, fathers' attitudes have a predictive effect in predicting the behaviors of young boys. This result can be interpreted as the typical manner in which girls take their mothers and boys take their fathers as their role models. As for adolescent use of the strategies related to body shape, the predictive effect of peers, mothers, and fathers is consistent with the arguments asserted by studies exhibiting how adolescents are influenced by more realistic factors besides just the media (McCabe & Ricciardelli, 2003; Özmen, Çetinkaya, Ergin, Şen, & Dündar Erbay, 2007; Viviani, 2006).

Suggestions

This study was intended and planned for the purpose of analyzing Turkish adolescents' body image in terms of age and gender, and for evaluating the effects of socio-cultural factors upon adolescents' body image. This study fills the existing gap in the body of literature pertaining to the subject on the grounds that many (1280) adolescents participated; and not only adolescents with certain characteristics (sportsman, high school students, etc.) participated, but also adolescents ages 13-16 who attend school. Its validity is also owing to the fact that it researches the effects of numerous variables (peer, media, family, etc.) upon adolescent body image. It is recommended that similar studies be conducted on younger age groups (preschool, primary school children) and/or older age groups (11th and 12th graders, as well as university students) in parallel with this study. Furthermore, it is suggested that these further studies address one or several of the socio-cultural factors in detail with regard to the subject.

This study demonstrated that the media has a significant influence on adolescent body image. The models presented by the media, especially with regard to losing weight, body satisfaction, and the frequent presence and use of dietary products and products for losing weight (such as gym equipment, garments, and beverages for losing weight, etc.) in the television and newspapers lead adolescents to being exceptionally aware of their body satisfaction or dissatisfaction. Adolescents' body dissatisfaction results in

using media figures as models for achieving the perfect body. This situation gives rise to nutrition disorders and increases the likelihood of adolescents dieting in an effort to achieve desired body sizes. In order to mitigate the negative impact of the media on adolescents, guidance and consulting should be offered to ensure the adoption of the idea that “each individual has a unique and special character and beauty”. Adequate preparation and broadcast of informative public service announcements to this effect with the help of the media (in guidance of specialists) is therefore extremely important. Raising awareness among mothers and fathers to have positive attitudes with respect to children’s body image is another crucial point.

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