

Body Esteem and Associated Factors Among Tunisian Adolescents

L'estime corporelle et ses facteurs associés chez les adolescents tunisiens

Hela Rezgui¹, Soumaya Bourguou², Meriem Hamza², Radhouane Fakhfakh², Ahlem Belhadj²

1. University of Tunis El Manar, Faculty of Medicine of Tunis, 1007, Mongi Slim University Hospital, Child Psychiatry Department.
2. University of Tunis El Manar, Faculty of Medicine of Tunis, 1007, Mongi Slim University Hospital, Child psychiatry department, Laboratory of research "Santé Mère- Bébé" LR22SP01, 2046, Tunis, Tunisia

ABSTRACT

Introduction-Aim: Adolescents go through morphological and psychosocial changes that greatly influence body perception and body esteem. The aim of this study was to explore and describe body esteem among Tunisian adolescents.

Methods: We conducted a cross-sectional study involving 340 adolescents who attend Tunisian high school. We collected the age, sex, weight, and height of each participant and we used Tunisian validated version of BESAA, the Arabic version of Rosenberg Self Esteem Scale and the F-SCOFF questionnaire to assess each participant's body esteem, self-esteem and eating disorders respectively.

Results: We included 340 adolescents with a sex-ratio 0.7, among the 340 participants, 58.2% had a normal BMI. We found that 78.6% and 79.7% of adolescents have respectively good body esteem and high self-esteem with a similar distribution between girls and boys.

Body esteem was associated with a variety of factors, including age, self-esteem, the practice of regular sports activities and BMI, however, it was not associated with the F-SCOFF questionnaire.

Conclusions: The increasing preoccupation of teenagers with their body image makes it essential to study body esteem in this population to detect disorders that may stem from body dissatisfaction.

Key words: Body Esteem, Adolescents, Self-Esteem, Sport Activities, Eating Disorders, Body Image

RÉSUMÉ

Introduction-Objectif: Les adolescents subissent des changements morphologiques et psychosociaux qui peuvent influencer la perception et l'estime de leur corps. L'objectif de cette étude était d'explorer l'estime du corps chez les adolescents tunisiens.

Méthodes: Nous avons mené une étude transversale auprès d'adolescents fréquentant deux établissements scolaires du gouvernorat de Tunis. Nous avons recueilli l'âge, le sexe, le poids et la taille de chaque participant. Nous avons utilisé la version tunisienne validée du BESAA, la version arabe de l'échelle d'estime de soi de Rosenberg et le questionnaire F-SCOFF pour évaluer respectivement l'estime du corps, l'estime de soi et les troubles du comportement alimentaire.

Résultats: Nous avons inclus 340 adolescents avec un sex-ratio de 0,7, parmi lesquelles 58,2% avaient un indice de masse corporelle normal. Nous avons constaté que les adolescents avaient dans respectivement 78,6 % et 79,7 % une bonne estime corporelle et une haute estime de soi, avec une répartition similaire entre les filles et les garçons.

Nous avons trouvé que l'estime corporelle était associée à l'âge, l'estime de soi, la pratique d'activités sportives régulières et l'indice de masse corporelle ($p < 0.001$).

Conclusions: La préoccupation croissante des adolescents pour leur image corporelle rend indispensable l'étude de l'estime corporelle dans cette tranche d'âge afin de prévenir les troubles qui peuvent découler de l'insatisfaction corporelle.

Mots clés: Estime du corps, Adolescents, Estime de soi, Activités sportive, Troubles du comportement alimentaire, Image corporelle.

Correspondance

Hela Rezgui

University of Tunis El Manar, Faculty of Medicine of Tunis, 1007, Mongi Slim University Hospital, Child Psychiatry Department.

Email: hela.rezgui1994@gmail.com

INTRODUCTION

During adolescence, young people go through significant changes in their bodies, which can impact their self-perception. Several concepts have been developed in recent years in relation to self-perception, especially among adolescents (1,2).

Body esteem refers to self-perceptions of one's body and appearance (3,4). Although initially conceptualized as a unidimensional construct, later evidence suggested that body esteem is multi-dimensional, comprising factors such as physical attractiveness, upper body strength, physical condition, and weight concern (5).

Body perception refers to the process by which an individual forms a mental representation of their own body, encompassing both the physical sensations and the subjective evaluations of their body shape, size, and appearance (6).

Body satisfaction refers to an individual's subjective evaluation and contentment with their own body encompassing both appearance and functional aspects (7). The fast morphological and psychosocial changes occurring during adolescence can greatly influence body perception (8,9). Adolescence represents a critical stage in the development of positive or negative body image (10,11). Rapid changes during adolescence in shape and weight due to puberty interact with socio-cultural factors in influencing body perceptions (10). Weight misperception, a perceptual aspect of body image relating to over- or under-estimation of weight, is a separate construct from body dissatisfaction (12,13). In fact, one can be quite accurate in the perception of one's size and shape, and yet still be dissatisfied. The examination of body esteem during this transitional period is important, since distinct and significant changes occur at these times.

Research has shown that low body esteem has also been found to be correlated with unhealthy weight-loss behaviors, body-building supplement and steroid use and eating disorders such as anorexia and bulimia (14,15).

To the best of our knowledge, despite the growing clinical and research interest in the concept of body esteem, no studies related to this subject have been conducted in Tunisia. Therefore, our study aimed to explore body esteem among Tunisian adolescents.

METHODS

Study design and participants

We carried out a cross-sectional descriptive study. Participants were recruited from middle and high schools located in Tunis, the capital of Tunisia from October 2021 to November 2021.

Our study was approved by the ethics committee of the Mongi Slim hospital. The agreement was registered under the reference number 30/2021.

We have obtained the approval from the regional education delegation of Tunis to carry out the study. Then, we obtained the approval from the principals of

each school where the study was conducted.

In our study, we included adolescents aged from 12 to 19 years old, enrolled from seventh grade to third year of high school during the 2021/2022 academic year and who have provided their informed and written consent. We have not included adolescents with insufficient cognitive and linguistic abilities to comprehend written instructions, and we excluded adolescents who have refused to participate and all the participant forms with one or more missing responses in the body esteem questionnaire.

Measurement

Population characteristics

During our study, we collected the age, sex, weight, and height of each participant. We calculated the Body Mass Index (BMI) of each participant. We also gathered information on the regularity of sports activity practice for each participant.

Body-Esteem Scale for Adolescents and Adults

The Body-Esteem Scale for Adolescents and Adults (BESAA) is a self-report questionnaire developed by Mendelson et al. in 2001 to assess participants' attitudes and feelings about their bodies and appearance (3). The BESAA was validated in several languages, including French, Turkish, Italian and Swedish (16–20).

In our study, we assessed body esteem using the Tunisian validated version of BESAA (21) who has demonstrated satisfactory goodness of fit across multiple indices and acceptable to good internal consistency. Our scale is composed of 15 items (six negative and nine positive items). The responses are indicated on a five-point likert scale, ranging from 0 ("never") to 4 ("always"). BESAA score above 24.5 indicates good body esteem.

Rosenberg Self Esteem Scale

The Rosenberg Self-Esteem Scale (RSES) is a self-report questionnaire used to assess self-esteem. It is one of the most widely used measurement tools who was developed by Morris Rosenberg in 1965. The Rosenberg Self-Esteem Scale is composed of 10 items. The responses are indicated on a five-point Likert scale, ranging from 1 ("strongly disagree") to 4 ("strongly agree"). RSES score above 31 indicates high self-esteem. The RSES has been translated into 28 languages in 53 countries (22). In our study, we used the Arabic validated version (23).

The F-SCOFF questionnaire

The F-SCOFF questionnaire consists of five questions. The acronym SCOFF is derived from the five questions of the questionnaire (Sick, Control, One, Fat and Food).

The F-SCOFF questionnaire was developed by Morgan and al. in 1999 (24). It is both self-and hetero-administered questionnaire with an acceptable sensitivity and specificity at a threshold of 2.

In our study, we used the french version of the SCOFF questionnaire (25). The F-SCOFF questionnaire is a brief tool designed to detect eating disorders. Every question can be answered with a yes or a no. Every 'yes' corresponds to one point.

Statistical analysis

We calculated mean ages and the percentages of scores on the BESAA, RSES and F-SCOFF questionnaire, as well as the percentages of the different weight statuses (BMI). To analyze the correlation between body esteem (BESAA score), self-esteem (RSES score) and maladaptive eating behaviors (F-SCOFF questionnaire score), regular exercise and weight status (BMI), we calculated Spearman's coefficient (r). Statistical analyses were performed using SPSS 25.0.

RESULTS

Sample characteristics (table 1)

We solicited 360 adolescents for our study, 354 agreed to participate and completed the questionnaire. We excluded 14 uncompleted questionnaires. We finally included 340 responses. The sex ratio was 0.7 (60.3% girls vs 39.7% boys).

Among the participants, 58.2% had a normal BMI, 31.5% had a BMI < 18.5 and 10.3% had a BMI \geq 25. We found that 58.5% of them took part in regular sporting activities.

Distribution of weight status among adolescents with eating disorders

An eating disorder was found in 149 adolescents (43.8%). Adolescents with an eating disorder were overweight in 12.75% of cases, and underweight in 30.2%.

Body esteem among Tunisian adolescents (table 1)

We found that 78.6% of adolescents had good body esteem with a similar distribution between girls and boys (78.5% for girls vs 78.52% for boys).

Self-esteem among Tunisian adolescents (table 1)

We found that around 79.7% of participants had high self-esteem with a similar distribution between girls and boys (59.62% for girls vs 60.75% for boys).

Table 1. Sample characteristics

	Population	Boys	Girls		
	Means (SD)			t	p
Age	14.7 years (± 2.1)	14.84 (± 2.08)	14.68 (± 1.897)		
BMI	20.33 (± 3.33)	20.38 (± 3.5)	20.3 (± 3.22)		
F-SCOFF scores	3.5 (± 1.31)	3.75 (± 1.18)	3.34 (± 1.36)		
BESAA scores	32.9 (± 10.47)	33.57 (± 11.24)	32.61 (± 10.42)	-0.808	0.420
RSES scores	31.02 (± 5.12)	31.4 (± 4.43)	30.75 (± 5.52)	-1.208	0.228

Associations between body esteem, age, self-esteem, BMI, regular exercise and F-SCOFF scores (table 2)

Table 2. Associations between body esteem, age, self-esteem, BMI, F-SCOFF scores and regular exercise

	p	r
Body esteem and age	<0.001	-0.298
Body esteem and self-esteem	<0.001	0.340
Body Esteem and BMI	<0.001	-0.196
Body Esteem and regular exercise	<0.001	0.164
Body esteem and F-SCOFF scores	0.195	0.007

DISCUSSION

In our study, we found that 78.6% and 79.7% of adolescents have respectively good body esteem and high self-esteem with a similar distribution between girls and boys.

An eating disorder was found in 149 adolescents (43.8%). Adolescents with an eating disorder were overweight in 12.75% of cases, and underweight in 30.2%.

To our knowledge, our study represents the first attempt to examine the particularities of body esteem among Tunisian adolescents. It emphasizes the importance of body image and self-esteem among young people, highlighting their vulnerability to external influences such as the media and popular culture. Our study has allowed us to highlight the main factors that can influence body esteem among adolescents, notably age, BMI, regular physical activity, and self-esteem.

Our study has several limitations that should be taken into account in future research. The results of our study come from a sample of adolescents recruited in the government of Tunis who are not representative of all Tunisian adolescents. The development of body esteem can be influenced by various factors, such as geographical location and regional specificities.

Contrary to the literature, we found that adolescents have good body esteem in 78.6% and high self-esteem in 79.7% with no significant differences between genders. In fact, according to studies carried out among adolescents in Minneapolis-Saint Paul in the USA in 2002, 54% of girls and 33.6% of boys reported a feeling of satisfaction with their body image (26–28). Another study carried out in Karachi, Pakistan, in 2006 showed that boys had higher self-esteem than girls (29).

In our study, we compared the self-esteem levels between girls and boys using the independent samples t-test. Our analysis revealed no significant difference in self-esteem scores between the two genders. This finding contrasts with a study conducted in Pakistan in 2006, which reported a significant gender difference in self-esteem ($t = 3.425$, $p < .01$, $df = 354$) (29). Another study conducted in France in 2004 found a significant gender difference in self-esteem (30). These divergent results may be influenced by various factors, including cultural, religious, social, or methodological differences between the two studies.

In our study, we found that as adolescents get older, body dissatisfaction increases, which is consistent with the literature. Particularly for girls, body dissatisfaction has been shown to become more pronounced with increasing age (31). Studies highlight that around ages 15–16, adolescents experience a significant rise in body dissatisfaction due to physical changes, social comparisons, and increased self-consciousness, making them more sensitive to societal standards and peer influences (32,33).

Our study revealed statistically significant positive correlations between body esteem, self-esteem, and regular physical activity, aligning with findings from existing literature. Indeed, there is a relationship between self-esteem and body esteem, regardless of gender or

period of adolescence (34), and young people with a positive attitude towards their physical appearance tend to have high general self-esteem (35).

We also found a statistically significant negative association between BESAA scores and BMI. Indeed, some studies highlight that, among all factors associated with body esteem in young people, BMI appears to have the strongest correlation. (36,37).

The growing focus on physical appearance has emerged as a prominent phenomenon in contemporary society, especially among adolescents. This trend is shaped by various factors, including social media, celebrity culture, and the ever-evolving standards of beauty.

For boys, the focus on bodybuilding is motivated not only by the desire to enhance physical strength but also by the aspiration to sculpt their appearance. Muscular development is often associated with masculinity and physical attractiveness (38). For girls, the emphasis is often on enhancing specific physical features, such as the buttocks and breasts, in response to beauty ideals that prioritize these traits. This is pursued through targeted exercises designed to increase the volume or shape of these areas, aiming to conform to perceived standards of attractiveness.(39).

These factors that modulate teenagers' body esteem are strongly influenced by culture. Indeed, some cultures may emphasize thinness, while others may value rounder shapes.

Beauty standards and body ideals vary from one society to another. The media, advertising, and fashion industries can play an important role in creating these standards, which evolve over time (16,38,40).

Media, including social networks, have a significant impact on body perception among adolescents. They often present highly muscular male physiques as ideals for boys. Additionally, celebrities and influencers on social media frequently display bodies with specific characteristics, influencing beauty standards. This can lead young women to adopt targeted exercise and nutrition regimens to achieve these objectives (39).

In our study, we didn't find any statically significant correlation between BESAA scores and F-SCOFF scores, however, several longitudinal studies conducted with adolescent and adult females have shown that low body esteem is one of the main risk factors leading to problem eating attitudes and behaviors (33). Low body esteem is a significant predictor of disordered eating behaviors and is closely associated with eating disorders such as anorexia nervosa, and binge eating disorder (14,34).

Previous studies have found that individuals with low body esteem are more likely to engage in disordered eating behaviours such as dieting, unhealthy eating and weight control practices (41,42).

CONCLUSION

Body perception plays an important role in building self-esteem, especially during adolescence. Good body esteem, and consequently good self-esteem, is a personal resource associated with better social adaptation, and a

guarantee of good mental health and well-being.

The increasing preoccupation of teenagers with their body image makes it essential to study body esteem in this population to detect disorders that may stem from body dissatisfaction.

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