Received: 11 June 2026; **Revised:** 19 July 2026; **Accepted:** 26 September 2026; **Published:** 18 October 2026
Archs Sci. (2026) Volume 76(4), Pages 118-127, Paper ID 2026412.
https://doi.org/10.68304/as/76412

Examining the Relationship Between Social Appearance Anxiety and Self-Confidence Levels Among High School Students

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Abstract The aim of this study is to examine the relationship between social appearance anxiety and self-confidence levels among high school students. The study sample consisted of 341 students, including 179 female and 162 male students, attending different high schools in Adana. The participants were aged 14 to 18 years, with the majority being 15 years old. The Social Appearance Anxiety Scale, developed by Hart, Leary, and Rejeski [1] and adapted into Turkish by Doğan [2], and the Self-Confidence Scale (SCS), developed by Akın [3], were used as data collection instruments. The Social Appearance Anxiety Scale (SAAS) scores showed moderate, negative, and statistically significant correlations with both Internal Self-Confidence (ISC) ($r = -0.369$; $p < 0.001$) and External Self-Confidence (ESC) ($r = -0.316$; $p < 0.001$). Accordingly, higher levels of social appearance anxiety were associated with lower levels of internal and external self-confidence. A moderate, negative, and statistically significant relationship was also found between the SAAS total score and the SCS total score ($r = -0.361$; $p < 0.001$). In conclusion, a negative and statistically significant relationship was found between social appearance anxiety and overall self-confidence levels among high school students.

Index Terms social appearance anxiety, self-confidence, high school students

I. INTRODUCTION

Adolescence is a developmental period characterized by substantial physical, psychological, and social changes that influence how individuals perceive themselves and interact with others. During this period, rapid bodily development coincides with an increasing awareness of personal appearance, social acceptance, and evaluations made by peers. Physical appearance consequently becomes an important component of self-perception and interpersonal relationships, particularly in environments where adolescents frequently compare themselves with others. Positive perceptions of physical appearance may contribute to a sense of personal competence and more comfortable participation in social activities, whereas unfavorable evaluations of one's appearance may accompany feelings of inadequacy, reduced self-confidence, and social withdrawal. These experiences are especially relevant during adolescence because individuals are simultaneously developing their personal identities, establishing social relationships, and forming evaluations of their own abilities and characteristics [4], [5].

Body image represents an individual's perceptions, attitudes, and evaluations concerning their physical appearance. Although body image is an important component of self-perception, concerns regarding physical appearance may extend beyond dissatisfaction with particular bodily characteristics. Individuals may also experience anxiety arising from the possibility that their overall appearance will be evaluated negatively by others. This experience is described as social appearance anxiety and involves apprehension concerning the impressions individuals believe their appearance creates in interpersonal situations. Doğan [2] addressed this construct through the Turkish adaptation of the Social Appearance Anxiety Scale, contributing to its assessment within the Turkish cultural context. Social appearance anxiety is conceptually related to, but distinguishable from, social physique anxiety. Hart, Leary, and Rejeski [1] examined anxiety associated with the evaluation of one's physique by other people. Social appearance anxiety encompasses a broader range of concerns regarding overall appearance, including the individual's perceived attractiveness and the possibility of unfavorable social judgments.

The significance of appearance-related evaluations may become particularly pronounced during adolescence because physical maturation occurs alongside changes in social expectations and interpersonal relationships. Adolescents increasingly develop their self-concepts through experiences involv-

ing family members, classmates, friends, and other individuals within their social environments. Harter [5] emphasized the contributions of physical development, social influences, and cognitive processes to the formation of self-concept during adolescence. Consequently, adolescents' perceptions of how others evaluate their physical appearance may become closely connected with their broader evaluations of personal worth and competence. Appearance-related concerns may be reinforced when individuals perceive a discrepancy between their physical characteristics and the standards they believe are socially desirable. In school environments, where peer interaction and social comparison occur regularly, such concerns may influence the confidence with which students participate in interpersonal activities.

The social environment contributes to the development and maintenance of appearance-related concerns through cultural expectations, interpersonal feedback, and the importance attributed to physical attractiveness. Individuals may evaluate their appearance not only according to personal preferences but also in relation to perceived social standards. Such evaluations may influence their expectations regarding acceptance and rejection in social situations. Research examining appearance-related anxiety has considered its relationship with self-esteem and loneliness, illustrating the relevance of appearance concerns to broader dimensions of interpersonal functioning [6]. Among adolescents, perceived criticism or negative evaluation of physical characteristics may contribute to heightened attention to personal appearance and increased apprehension in social encounters. Nevertheless, the relationship between appearance-related anxiety and social functioning should not be understood as uniform across individuals, because personal experiences and interpretations of social feedback may differ.

The increasing integration of social media into adolescents' daily lives has introduced additional contexts in which physical appearance can be observed, displayed, compared, and evaluated. Images shared through digital platforms may expose individuals to appearance-related expectations and encourage comparisons involving physical characteristics. These experiences are relevant because adolescents may attach considerable importance to how their appearance is perceived by others. Üstündağ, Kanik, and Çınar [7] investigated the relationship between social appearance anxiety and appearance-related social media consciousness among Turkish adolescents, identifying an association between these characteristics. Similarly, Söyünmez et al. [8] examined social appearance anxiety and social media use in relation to objectified body consciousness among adolescents. These investigations indicate that appearance-related concerns should be considered within both face-to-face and digital social environments. However, the associations identified in such studies do not establish that social media exposure directly causes social appearance anxiety.

Beyond interpersonal experiences, social appearance anxiety has also been examined in relation to psychological well-being. Adolescents who experience persistent concerns regarding the evaluation of their appearance may encounter difficulties in maintaining favorable perceptions of themselves, particularly when personal appearance becomes an important basis for social comparison. Gergin and Uysal [9] investigated the relationship between psychological well-being and social appearance anxiety among adolescents in Türkiye, highlighting the relevance of appearance-related anxiety to adolescent psychosocial functioning. The findings of such research provide a basis for examining appearance anxiety alongside psychological characteristics that reflect how individuals evaluate their own competencies. Furthermore, research concerning the psychometric properties of the Social Appearance Anxiety Scale in adolescent populations supports the importance of using appropriate measurement instruments when investigating these relationships [10], [11].

One psychological characteristic of particular relevance to social appearance anxiety is self-confidence. Self-confidence refers to an individual's belief in their personal abilities, capabilities, and capacity to respond effectively to different situations. It involves positive evaluations of one's competencies and may contribute to the willingness to undertake responsibilities, communicate with others, and participate in social activities. Although self-confidence is related to self-esteem, the two concepts are not identical. Self-esteem primarily concerns an individual's overall evaluation of personal worth, whereas self-confidence emphasizes trust in personal abilities and competence. Maintaining this distinction is important when examining the psychological characteristics associated with social appearance anxiety, particularly because different measurement instruments assess different aspects of self-evaluation.

Akın [3] conceptualized self-confidence through two related dimensions: inner self-confidence and outer self-confidence. Inner self-confidence concerns individuals' positive evaluations of their own abilities, personal characteristics, and capacity to manage circumstances. Outer self-confidence concerns the expression of confidence through interpersonal behavior, communication, and participation in social environments. These dimensions provide a basis for examining whether appearance-related anxiety is associated primarily with individuals' internal perceptions of competence, their confidence in social situations, or both. The distinction is especially relevant during adolescence because perceptions of personal ability develop alongside increasing exposure to peer evaluation and interpersonal expectations.

The relationship between social appearance anxiety and self-confidence may involve several interconnected psychological experiences. Adolescents who anticipate unfavorable judgments concerning their physical appearance may experience uncertainty when presenting themselves in social settings. Such expectations could be associated with reduced confidence in interpersonal communication and with less favorable evaluations of personal capabilities. Conversely, adolescents who possess stronger confidence in their abilities may be more comfortable participating in social situations despite differences between their appearance and perceived

social standards. These possibilities suggest that inner and outer self-confidence may have distinct relationships with social appearance anxiety. Nevertheless, the direction of these relationships cannot be established solely from cross-sectional associations. Accordingly, examining the separate dimensions of self-confidence is necessary to provide a more detailed understanding of how appearance-related anxiety relates to adolescents' perceptions of themselves.

Individual and demographic characteristics may also be relevant when examining social appearance anxiety and self-confidence. Age is an important consideration because physical maturation, cognitive development, and social expectations continue to change throughout adolescence. However, chronological age alone may not adequately describe the differences in psychological adjustment experienced by adolescents. Gender is another relevant characteristic because the appearance expectations encountered by female and male adolescents may differ across social environments. Both female and male students may experience concerns about their physical appearance, although the situations in which these concerns arise and the meanings attached to them may vary. Investigating potential differences according to age and gender can therefore contribute to understanding variation in appearance-related anxiety and self-confidence within adolescent populations.

Physical characteristics, particularly body weight and body image, represent additional considerations. Adolescents may evaluate their bodies in relation to personal expectations, perceived social standards, and comparisons with peers. Body mass index (BMI) is frequently used to describe weight relative to height, although its interpretation during adolescence requires consideration of continuing growth and development. Differences in body size do not necessarily correspond to differences in body satisfaction, because individuals with similar physical characteristics may evaluate their appearance differently. Research by Üstündağ, Kurtkaya, and Zaman [12] examined relationships involving body image, social appearance anxiety, and motivation to participate in physical activity among adolescents, emphasizing the relevance of physical and psychosocial characteristics to the study of appearance-related concerns. Accordingly, examining social appearance anxiety and self-confidence across BMI categories may provide additional information about their associations with body-related characteristics. When BMI values are estimated using categorical height and weight information, however, the approximate nature of these estimates must be considered when interpreting the findings.

Although previous investigations have examined social appearance anxiety in relation to psychological well-being, body image, social media experiences, and other psychosocial characteristics, the association between social appearance anxiety and the distinct dimensions of self-confidence warrants further examination among high school students. In particular, evaluating inner and outer self-confidence separately may help establish whether concerns regarding the social evaluation of physical appearance are associated differently with personal perceptions of competence and confidence expressed in interpersonal situations. Examining these relationships alongside age, gender, and approximate BMI categories may also provide a more comprehensive description of variation within an adolescent school population. Such an approach is relevant to educational and psychological support settings because adolescence represents a period during which both physical self-perceptions and confidence in social participation continue to develop.

Within this context, the present study aims to examine the relationship between social appearance anxiety and self-confidence levels among high school students. The study includes 341 students aged 14–18 years attending different high schools in Adana, Türkiye, during the 2025–2026 academic year. Specifically, it investigates the relationships between Social Appearance Anxiety Scale scores and the inner self-confidence, outer self-confidence, and overall self-confidence scores obtained from the Self-Confidence Scale. In addition, the study examines whether social appearance anxiety and self-confidence scores differ according to participants' age, gender, and approximate BMI categories. By evaluating these variables together, the study seeks to provide a more detailed understanding of the associations between appearance-related social concerns and different dimensions of self-confidence during adolescence.

II. METHOD

A. Research Group

The study sample consisted of 341 high school students, including 179 female and 162 male students, who attended different high schools in Adana during the 2025–2026 academic year.

B. Data Collection Instruments

A personal information form prepared by the researcher was used to determine the sociodemographic characteristics of the participants. When the demographic characteristics of the 341 high school students participating in the study were examined, it was observed that the participants were predominantly 15 years old (117 participants, 34.3%) and 16 years old (88 participants, 25.8%). These groups were followed by the 17-year-old group (73 participants, 21.4%), the 14-year-old group (49 participants, 14.4%), and the 18-year-old group (14 participants, 4.1%), respectively. In terms of gender distribution, the sample had a relatively balanced gender distribution, with 52.5% of the participants being female (179 participants) and 47.5% being male (162 participants).

When the physical characteristics of the participants were evaluated, it was determined that the majority of the high school students had a height between 1.61 and 1.70 meters (150 participants, 44.0%). This was followed by the height ranges of 1.71–1.80 meters (91 participants, 26.7%), 1.51–1.60 meters (66 participants, 19.4%), and 1.81–1.90 meters (34 participants, 10.0%). Regarding weight distribution, more than half of the high school students were in the 51–60 kg range (175 participants, 51.3%). In addition, 24.0% of

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the participants (82 participants) weighed 61–70 kg, 16.4% (56 participants) weighed 71–80 kg, 5.3% (18 participants) weighed 81–90 kg, and 2.9% (10 participants) weighed 91 kg or more. These findings indicate that the sample was generally concentrated within the medium-height and medium-weight groups.

C. Social Appearance Anxiety Scale

The Social Appearance Anxiety Scale, developed by Hart, Leary, and Rejeski [1] and adapted into Turkish by Doğan [2], consists of 16 items and uses a five-point Likert-type scale (1, 2, 3, 4, 5). The response options range from (1) "Not at all appropriate" to (5) "Completely appropriate." The first item was reverse-coded because, unlike the other items that express negative states such as anxiety, worry, and tension, it contains a positive statement referring to feeling comfortable. The minimum score on the Social Appearance Anxiety Scale is 16, while the maximum score is 80. Higher scores indicate higher levels of social appearance anxiety.

D. Self-Confidence Scale

The original scale was developed by Akın [3]. The internal consistency coefficients reported by Akın [3] were .83 for the overall scale and .83 and .85 for the inner self-confidence and outer self-confidence subscales, respectively. Items 4, 25, 32, 17, 10, 30, 12, 3, 19, 5, 21, 27, 9, 23, 1, 7, and 15 constitute the inner self-confidence subscale, whereas items 6, 31, 20, 29, 16, 14, 22, 11, 18, 33, 2, 28, 26, 13, 8, and 24 constitute the outer self-confidence subscale. These subscales explain 43.6% of the total variance. A total score ranging from 17 to 85 can be obtained from the inner self-confidence subscale, 16 to 80 from the outer self-confidence subscale, and 33 to 165 from the overall self-confidence scale. Responses to the scale are scored using a five-point Likert-type rating scale [3]. Higher total scores are interpreted as indicating higher levels of self-confidence.

E. Data Analysis

IBM SPSS Statistics software was used to analyze the data obtained from the study. First, frequency (n), percentage (%), mean, and standard deviation values were calculated to determine the demographic characteristics of the participants and the distribution of scores obtained from the scales. The distribution characteristics of the scores obtained from the Social Appearance Anxiety Scale (SAAS), Self-Confidence Scale (SCS), and the inner self-confidence (ISC) and outer self-confidence (OSC) subscales of the SCS were evaluated based on skewness and kurtosis values. Considering that skewness and kurtosis values between -2 and +2 indicate an acceptable range, the variables were considered to meet the assumption of normal distribution [13]. Cronbach's alpha internal consistency coefficient was calculated to assess the reliability of the scales.

The reliability levels of the SAAS, SCS, and the ISC and OSC subscales of the SCS were determined. To compare scale scores across demographic categories, an independent-samples t-test was used for variables consisting of two categories, while one-way analysis of variance (ANOVA) was used for variables with more than two categories. When a statistically significant difference was found as a result of the ANOVA, Tukey's post hoc test was conducted to determine which groups were responsible for the difference. Pearson correlation analysis was used to determine the relationships between the SAAS and the SCS and its subscales, as the variables showed a normal distribution. The statistical significance level was set at $p<0.05$ at the 95% confidence level. Accordingly, results with a p-value less than 0.05 were considered statistically significant.

III. RESULTS

When the demographic characteristics of the 341 high school students participating in the study were examined, the age distribution of the participants was found to be concentrated predominantly in the 15-year-old group (117 participants, 34.3%) and the 16-year-old group (88 participants, 25.8%). These were followed by the 17-year-old group (73 participants, 21.4%), the 14-year-old group (49 participants, 14.4%), and the 18-year-old group (14 participants, 4.1%), respectively. In terms of gender distribution, the sample had a relatively balanced gender distribution, with 52.5% of the participants (179 participants) being female and 47.5% (162 participants) being male.

When the physical characteristics of the participants were evaluated, it was determined that the majority of the high school students had a height between 1.61 and 1.70 meters (150 participants, 44.0%). This was followed by the height ranges of 1.71–1.80 meters (91 participants, 26.7%), 1.51–1.60 meters (66 participants, 19.4%), and 1.81–1.90 meters (34 participants, 10.0%), respectively. Regarding weight distribution, more than half of the high school students were in the 51–60 kg range (175 participants, 51.3%). In addition, 24.0% of the participants (82 participants) weighed 61–70 kg, 16.4% (56 participants) weighed 71–80 kg, 5.3% (18 participants) weighed 81–90 kg, and 2.9% (10 participants) weighed 91 kg or more. These findings indicate that the sample was generally concentrated in the medium-height and medium-weight groups.

For the calculation of Body Mass Index (BMI), the height and weight variables of the participants were obtained as ranges (categories) rather than as direct numerical values. Therefore, the midpoint of each category was used as the representative value in the analyses. Within this scope, a single approximate value (category midpoint) was determined by calculating the average of the lower and upper limits for each height and weight range, and the approximate BMI (kg/m^2) values of the individuals were calculated accordingly. The resulting BMI values were then categorized according to the classification of the World Health Organization (WHO).

This approach is a commonly used method for approximately representing continuous variables when raw individual measurements are unavailable and is frequently used, particu-

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Table 1: Distribution of the Demographic Characteristics of the 341 High School Students Participating in the Study

Variable	Frequency (n)	Percentage (%)
Age		
14	49	14.4
15	117	34.3
16	88	25.8
17	73	21.4
18	14	4.1
Gender		
Female	179	52.5
Male	162	47.5
Height Range (m)		
1.51–1.60	66	19.4
1.61–1.70	150	44.0
1.71–1.80	91	26.7
1.81–1.90	34	10.0
Weight Range (kg)		
51–60	175	51.3
61–70	82	24.0
71–80	56	16.4
81–90	18	5.3
$\geq$91	10	2.9
Body Mass Index (BMI) Category		
Individuals outside the normal weight range (BMI <18.5 or BMI $\geq$25)	75	22.0
Normal weight (18.5 $\leq$ BMI <25)	266	78.0
Total	341	100.0

larly in survey-based studies. When the distribution according to Body Mass Index (BMI) categories was examined, the majority of the participants were found to be in the normal-weight category (266 participants, 78.0%). Individuals outside the normal-weight category (underweight, overweight, and obesity) constituted 22.0% of the sample, corresponding to 75 participants.

The total scores of the Social Appearance Anxiety Scale (SAAS) ranged from 16 to 77. The mean total SAAS score was 36.92, with a standard deviation of 15.04. Skewness and kurtosis values were taken into consideration to assess the assumptions of normality. When skewness and kurtosis values are between -2 and +2, the assumption of normality is considered to be met; when these values fall outside this range, the assumption of normal distribution is considered not to be met, indicating that the data do not originate from a normally distributed population [13]. The skewness value of the total SAAS scores was 0.675, while the kurtosis value was -0.308. Accordingly, it was concluded that the total SAAS scores originated from a normally distributed population and that the assumption of normality was met. The internal consistency Cronbach's alpha coefficient for the SAAS was 0.948. The following table presents the summary statistics of the total SAAS scores according to demographic characteristics and approximate BMI categories. Since the assumption of normality was met, differences between groups were tested using an independent-samples t-test and one-way analysis of variance (ANOVA), while Tukey's post hoc test was used to determine which groups accounted for significant differences. The analyses were conducted at the 95% confidence level.

No statistically significant difference was found between the total Social Appearance Anxiety Scale scores according to the participants' age and gender ($p>0.05$). However, according to BMI category, individuals outside the normal BMI range had higher SAAS total scores than individuals within the normal BMI range ($p<0.05$).

The total scores for the ISC subfactor ranged from 34 to 85, with a mean total score of 64.98 and a standard deviation of 11.85. The total scores for the OSC subfactor ranged from 30 to 80, with a mean total score of 60.45 and a standard deviation of 10.92. The overall SCS total scores ranged from 64 to 165.

The mean total score on the Self-Confidence Scale (SCS) was 125.43, with a standard deviation of 21.64. Skewness and kurtosis values were taken into consideration to assess the assumptions of normality. When skewness and kurtosis values fall between -2 and +2, the assumption of normality is considered to be met; when these values fall outside this range, the assumption of normal distribution is considered not to be met, indicating that the data do not originate from a normally distributed population [13].

The skewness values of the total scores of the SCS and its two subfactors ranged from -0.492 to -0.348, while the kurtosis values ranged from -0.352 to -0.272. Accordingly, it was concluded that the total scores of the SCS and its subfactors originated from a normally distributed population and that the assumption of normality was met. The internal consistency Cronbach's alpha coefficients for the subfactors were 0.895 for Inner Self-Confidence (ISC) and 0.876 for Outer Self-Confidence (OSC). For the overall SCS, the internal consistency Cronbach's alpha coefficient was 0.935. The table below presents the summary statistics of the total scores of the SCS and its subfactors according to demographic characteristics and approximate BMI categories. Since the assumption of normality was met, differences between groups were tested using the "Independent Samples t-test" and "one-way analysis of variance (ANOVA)," while the "Tukey post

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Table 2: Descriptive Summary Statistics for the Total Scores of the Social Appearance Anxiety Scale

Scale	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis	Cronbach's Alpha
Social Appearance Anxiety Scale	16	77	36.92	15.04	0.675	-0.308	0.948

Table 3: Summary Statistics of SAAS Total Scores According to Demographic Characteristics and Approximate BMI Categories

Variable	SAAS
Age	
14	Mean ± SD: 36.37 ± 12.91
15	38.51 ± 14.67
16	37.13 ± 14.84
17	34.19 ± 15.96
18	38.57 ± 20.65
p-value	0.413
Gender	
Female	Mean ± SD: 35.65 ± 15.13
Male	38.33 ± 14.87
p-value	0.101
BMI Category	
Individuals outside the normal weight range (BMI <18.5 or BMI ≥25)	Mean ± SD: 40.73 ± 15.89
Normal weight (18.5 ≤ BMI <25)	35.85 ± 14.65
p-value	0.013*

Table 4: Descriptive Summary Statistics for the Total Scores of the Self-Confidence Scale and Its Subfactors

Self-Confidence Scale and Its Subfactors	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis	Cronbach's Alpha
Inner Self-Confidence (ISC)	34	85	64.98	11.85	-0.492	-0.272	0.895
Outer Self-Confidence (OSC)	30	80	60.45	10.92	-0.348	-0.352	0.876
Self-Confidence Scale (SCS)	64	165	125.43	21.64	-0.371	-0.274	0.935

hoc" test was used to determine which groups accounted for the observed differences. The analyses were conducted at the 95% confidence level.

The total scores of the SCS and its subfactors did not show statistically significant differences according to the participants' age and BMI classifications (p>0.05). The total scores of the overall SCS and the OSC subfactor did not show statistically significant differences according to the participants' gender (p>0.05). However, the total scores for the ISC subfactor were higher among male participants than among female participants (p≤0.05).

Since the total scores of the SAAS, SCS, and its subfactors were assumed to originate from a normally distributed population, the Pearson correlation coefficient (r) was used to measure the relationships between the overall scales and their subfactors. The correlation coefficient takes values ranging from -1 to +1. A positive value indicates a relationship in the same direction between two variables, whereas a negative value indicates an inverse relationship between two variables. As the correlation coefficient approaches -1 or +1, the strength of the relationship increases. A correlation coefficient of 0 indicates that there is no relationship between the two variables. As the coefficient approaches 0, the strength of the relationship decreases.

In the table, the correlation coefficient is presented in each cell, and the p-value associated with the respective test is given in parentheses.

Correlation is significant at the 0.01 level.

Correlation is significant at the 0.05 level.

The table shows a very high, positive, and statistically significant relationship between ISC and OSC, which are the subdimensions of the SCS (r=0.805; p<0.001). In addition, very high, positive, and statistically significant relationships were found between the total SCS score and ISC (r=0.954; p<0.001) and OSC (r=0.946; p<0.001).

When the relationships between the SAAS and the subdimensions of the SCS were examined, statistically significant negative relationships were found between the SAAS and ISC (r=-0.369; p<0.001) and OSC (r=-0.316; p<0.001). Accordingly, it can be stated that as social appearance anxiety scores increase, inner and outer self-confidence scores tend to decrease.

When the relationship between the two overall scales was evaluated, a moderate, negative, and statistically significant relationship was found between the SAAS and the total SCS score (r=-0.361; p<0.001). This finding indicates that there is a negative and statistically significant relationship between social appearance anxiety and overall self-confidence level.

IV. DISCUSSION

This study aimed to examine the relationship between social appearance anxiety and self-esteem among high school students, and to determine whether social appearance anxiety and self-esteem levels differ according to age, gender, and approximate Body Mass Index (BMI) categories. The primary finding of the study is a moderate, negative, and statistically significant correlation between social appearance anxiety and general self-esteem ($r = -0.361$, $p < 0.001$). Further-

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Table 5

Variable	ISC	OSC	SCS
Age			
14	64.06±11.89	59.14±10.88	123.20±21.24
15	64.50±12.24	60.20±11.53	124.70±22.78
16	65.43±11.10	61.28±9.84	126.72±19.70
17	66.27±11.97	61.36±11.48	127.63±22.47
18	62.50±13.08	57.21±9.52	119.71±21.42
p-value	0.721	0.559	0.613
Gender			
Female	63.70±12.32	59.96±10.93	123.65±21.82
Male	66.39±11.18	61.00±10.92	127.39±21.33
p-value	0.036*	0.379	0.112
BMI Classification			
Individuals outside the normal weight range (BMI <18.5 or BMI ≥25)	63.16±13.45	59.17±12.17	122.33±24.80
Normal weight (18.5≤BMI<25)	65.49±11.33	60.81±10.54	126.30±20.63
p-value	0.174	0.252	0.208

Table 6

	SAAS	SCS	ISC	OSC
SAAS	1.000	-0.361** (≈0.000)	-0.369** (≈0.000)	-0.316** (≈0.000)
SCS		1.000	0.954** (≈0.000)	0.946** (≈0.000)
ISC			1.000	0.805** (≈0.000)
OSC				1.000

more, significant negative correlations were also identified between social appearance anxiety and internal self-esteem ($r = -0.369$, $p < 0.001$) as well as external self-esteem ($r = -0.316$, $p < 0.001$). These results indicate that as high school students' anxiety regarding the evaluation of their physical appearance by others increases, their self-esteem levels tend to decrease. Because adolescence is characterized by accelerated physical changes and the heightened importance of peer relationships and social acceptance, evaluations regarding an individual's physical appearance become psychosocially significant during this phase. Indeed, studies conducted with adolescents have reported that social appearance anxiety is negatively associated with psychological well-being, and that appearance-related anxiety is closely linked to adolescents' psychosocial adjustment [9].

In the present study, the mean total score of the Social Appearance Anxiety Scale (SAAS) was found to be 36.92 ± 15.04. The range of scale scores from 16 to 77 reveals individual differences among the participating students in terms of their levels of social appearance anxiety. This mean is close to the social appearance anxiety score of 37.91 ± 14.98 reported in a recent study conducted on 727 adolescents aged 12–18 in Turkey. That study similarly determined that social appearance anxiety did not significantly differ across age groups. This similarity suggests that the levels of social appearance anxiety among Turkish adolescents across different samples may be comparable [9].

It was determined that the skewness value of the total SAAS scores was 0.675 and the kurtosis value was -0.308, both of which fall within acceptable limits. Accordingly, it was accepted that the SAAS scores met the assumption of normality. Additionally, the Cronbach's alpha coefficient of the scale was 0.948, indicating that the scale possesses a very high level of internal consistency within the study group. This result is consistent with previous studies showing that the SAAS is a reliable measurement tool for assessing social appearance anxiety in adolescents. Psychometric studies conducted on samples consisting of Turkish adolescents have also reported that the Social Appearance Anxiety Scale has adequate validity and reliability properties, accompanied by high Cronbach's alpha coefficients [10], [11].

The study revealed no statistically significant difference in the total scores of social appearance anxiety based on the students' ages ($p = 0.413$). When examining the mean scores, values of 38.51 ± 14.67 for the 15-year-old age group, 37.13 ± 14.84 for the 16-year-old age group, 34.19 ± 15.96 for the 17-year-old age group, and 38.57 ± 20.65 for the 18-year-old age group were observed. Although there are some mean differences among age groups, the lack of statistical significance suggests that social appearance anxiety cannot be explained solely by changes in age within this study group. A recent study conducted with adolescents aged 12–18 in Turkey likewise reported that social appearance anxiety did not significantly differ by age. Nevertheless, because the 18-year-old age group consisted of only 14 participants in our study, the mean value pertaining to this group should be interpreted with caution [9].

When evaluated in terms of gender, the mean SAAS score of female students was found to be 35.65 ± 15.13, while that of male students was 38.33 ± 14.87; however, this difference was not statistically significant ($p = 0.101$). This result indicates that social appearance anxiety does not differ

according to gender in the sample of the study. Nevertheless, it is noteworthy that the mean scores of male students were higher than those of female students. Appearance-related social pressures are not limited to female adolescents; male adolescents may also experience social evaluation and pressure regarding their physical appearance. In a study conducted with 364 adolescents aged 15–18 in Turkey, it was determined that social appearance anxiety was significantly associated with appearance-related social media awareness, and that an increase in social appearance anxiety increased social media awareness regarding appearance [7].

In the study, it was determined that social appearance anxiety scores differed significantly according to approximate BMI categories. While the mean SAAS score of students outside the normal BMI range was 40.73 ± 15.89, the mean score among normal-weight students was 35.85 ± 14.65, and the difference between the groups was statistically significant ($p = 0.013$). This finding suggests that students outside the normal BMI range may experience higher social appearance anxiety regarding their physical appearance. During adolescence, the evaluation of body appearance by peers and the increasing importance of the ideal body image may lead students who perceive their body weight as different from ideal measurements to experience more anxiety regarding their appearance. Indeed, a recent study conducted with 507 high school students aged 15–17 revealed that body image and social appearance anxiety are important variables in terms of the physical and psychosocial characteristics of adolescents [12].

While evaluating this finding, the approximate BMI calculation method must also be taken into consideration. In this study, approximate BMI values were obtained by using the midpoints of intervals instead of individual height and weight measurements. Although this method can be used to approximately represent continuous variables when raw measurements are unavailable, it may cause a certain degree of measurement error in individuals' actual BMI values. Furthermore, considering that growth and development continue during adolescence, it is important to take age and gender into account when evaluating body weight. Therefore, while it is significant that social appearance anxiety was found to be higher in students outside the normal BMI range, it would be beneficial to re-evaluate this relationship through studies conducted with actual anthropometric measurements.

When examining self-esteem levels, the mean total score of the SEI (Self-Esteem Inventory) was determined to be 125.43 ± 21.64, the mean score for the Internal Self-Esteem subscale was 64.98 ± 11.85, and the mean score for the External Self-Esteem subscale was 60.45 ± 10.92. The skewness and kurtosis values of the total SEI score and its subscales falling within acceptable limits indicate that the data met the assumption of normal distribution. Moreover, the total Cronbach's alpha coefficient of the scale being 0.935, along with 0.895 for the ISE subscale and 0.876 for the ESE subscale, demonstrates that the measurement tool used possesses a high level of internal consistency within the study group. This condition allows for the reliable interpretation of the self-esteem scores obtained in the study.

In the study, no significant differences were found in the ISE, ESE, and total SEI scores based on the students' ages. Similarly, no statistically significant differences were determined in total and subscale self-esteem scores according to approximate BMI categories. Although the mean total SEI score of students in the normal BMI range was 126.30 ± 20.63 while that of non-normal weight students was 122.33 ± 24.80, this difference was not statistically significant ($p = 0.208$). This result suggests that the BMI category is not a variable that solely explains the general level of self-esteem. It can be stated that the effect of body weight on self-esteem should be evaluated together with psychosocial factors such as the individual's own body image, level of social comparison, and feedback received from their environment. Indeed, recent studies show that adolescents' body image and social appearance anxiety are related not only to physical characteristics but also to social and psychological factors [12].

When evaluated in terms of gender, the Internal Self-Esteem mean score of male students (66.39 ± 11.18) was found to be significantly higher than that of female students (63.70 ± 12.32) ($p = 0.036$). In contrast, no significant gender differences were found in External Self-Esteem or total SEI scores. This result suggests that gender may have an effect on one of the internal dimensions of self-esteem rather than on the general self-esteem level of students. However, explaining this difference solely through biological sex would not be appropriate. Variables such as family attitudes, peer relationships, academic success, social support, body image, and social media use may also be effective in the development of self-esteem in adolescents. Longitudinal studies examining the relationship between social appearance anxiety and self-esteem in adolescents indicate that self-esteem can be a protective factor against social appearance anxiety [14].

One of the most important findings of the study is the negative correlation between social appearance anxiety and self-esteem. A moderate, negative, and significant correlation was found between the SAAS and total SEI scores at the level of $r = -0.361$ ($p < 0.001$). Furthermore, significant negative correlations were also detected between the SAAS and ISE ($r = -0.369$) as well as ESE ($r = -0.316$). This result indicates that, as social appearance anxiety increases, both students' internal self-esteem and their self-esteem in social environments tend to decrease. This finding is consistent with research in the literature. A longitudinal study conducted with adolescents determined that self-esteem is a protective factor against social appearance anxiety, and that higher levels of self-esteem are associated with lower social appearance anxiety [14].

It is thought that the negative relationship between social appearance anxiety and self-esteem can be explained by the developmental characteristics of adolescence. The adolescent individual may place greater importance on how their physical appearance is evaluated by others and can develop positive or negative evaluations about themselves as a result

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of social comparisons made with peers. In individuals who think that their appearance will be evaluated negatively by other persons, shyness in social environments, feelings of inadequacy, and fear of social evaluation may increase. This process can contribute to a decrease in the level of self-esteem by weakening the individual's positive evaluations toward themselves. Recent studies conducted in Turkey have shown that social appearance anxiety is negatively correlated with psychological well-being, and that appearance anxiety can be an important risk factor in terms of adolescents' psychosocial statuses [9].

In the study, in addition to the relationship between social appearance anxiety and self-esteem, it is important that the negative correlations between social appearance anxiety and internal and external self-esteem are also significant. When internal self-esteem is evaluated as reflecting the dimensions of an individual's self-evaluations, and external self-esteem as reflecting the aspect of presenting oneself in the social environment and interacting with others, it can be thought that appearance-related anxiety can affect different aspects of self-esteem. In particular, the tendency of students with high social appearance anxiety to focus more on the evaluations of others can make it difficult for them to express themselves comfortably in social environments. Findings regarding the fact that social appearance anxiety is related to social media use and appearance-oriented social media awareness also support this assessment [7], [8].

The very high positive correlations between the total SEI score and ISE ($r = 0.954$; $p < 0.001$) and ESE ($r = 0.946$; $p < 0.001$) are expected because the total SEI score incorporates both the internal and external self-esteem dimensions. The presence of a high-level positive correlation between ISE and ESE ($r = 0.805$; $p < 0.001$) shows that the internal and external dimensions of self-esteem are strongly related to each other. Nevertheless, it should be taken into account that the high correlations between the total scale and its subdimensions may stem from the subdimensions being parts of the same general structure.

When the findings of the study are evaluated generally, it is seen that social appearance anxiety is closely related to the self-esteem levels of high school students. Particularly, the higher levels of social appearance anxiety among students outside the normal BMI range and the presence of negative correlations between social appearance anxiety and self-esteem demonstrate that body image and psychosocial development must be evaluated together during adolescence. Recent studies also report that social appearance anxiety is related to social media use, body image, and appearance-oriented social evaluations [7], [8].

In line with these results, it is important to support adolescents not only in their physical health but also in their body image and self-esteem in schools. Psychoeducation programs can be implemented that enable students to understand that different body features are normal and acceptable, reduce social comparison, support the critical evaluation of social media content, and strengthen self-esteem. Additionally, it may be beneficial to identify students with high social appearance anxiety at an early stage through school psychological counseling services and refer them to appropriate professional support when necessary. The demonstration in research with adolescents in Turkey that social appearance anxiety is related to psychological well-being and appearance-oriented social media awareness supports the importance of school-based preventive and protective studies [7], [9].

Finally, the study has certain limitations. First, because the study has a cross-sectional design, it is not possible to interpret the relationship between social appearance anxiety and self-esteem in a causal direction. In other words, it cannot be definitively stated that social appearance anxiety causes low self-esteem or that low self-esteem increases social appearance anxiety. Indeed, longitudinal and intervention studies are needed to reveal the direction of this relationship more clearly. Second, calculating BMI approximately by using the midpoints of intervals instead of individual height and weight measurements limits the precision of the results. Furthermore, the low number of participants in some age groups may have reduced the power of comparisons between age groups. In future research, using individual anthropometric measurements, including larger samples, and evaluating variables such as body image, social media use, peer pressure, family support, and psychological well-being together are recommended. Such studies will contribute to explaining the relationship between social appearance anxiety and self-esteem in a more comprehensive manner [9], [14].

V. CONCLUSION AND RECOMMENDATIONS

This study examined the relationship between social appearance anxiety and self-esteem levels among 341 high school students. The results of the study revealed a significant negative correlation between social appearance anxiety and self-esteem. It was observed that as social appearance anxiety increased, self-esteem levels tended to decrease. Furthermore, it was found that high school students outside the normal weight range had higher levels of social appearance anxiety compared to their normal-weight peers. Social appearance anxiety did not differ significantly by age or gender, whereas internal self-esteem scores differed by gender. Overall, the findings indicate that social appearance anxiety is closely related to the self-esteem of high school students. These findings may contribute to a better understanding of the social appearance anxiety and self-esteem levels of high school students.

- Psychoeducational programs supporting body image, social appearance anxiety, and self-esteem should be organized for high school students.
- Students with high social appearance anxiety and a BMI outside the normal range should be identified at an early stage and referred to school psychological counseling services.
- Students' critical evaluation skills regarding idealized body images encountered on social media should be supported.

- Awareness-raising activities aimed at embracing body diversity and reducing social comparison should be conducted in schools.
- Future research should examine the relationship between social appearance anxiety and self-esteem in greater detail using larger samples and individual height-weight measurements.

Conflicts of Interest

The authors declare no conflict of interests.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Funding

The authors thank the Research Foundation of Usak University (BAP) for funding this study under project number 2026/749.

Author Contribution

All authors contributed equally to this paper.

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