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The Relationship Between Body Image, Anxiety, and Self-Esteem in Adolescents

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ABSTRACT

Adolescence is a developmental period characterized by substantial physical, psychological, and social changes that may influence how young people perceive themselves and respond to social expectations. Concerns regarding physical appearance and emotional well-being may be associated with adolescents' levels of self-esteem. This study aimed to examine the relationship between body image, anxiety, and self-esteem among adolescents. A quantitative study was conducted using a cross-sectional design involving [number] adolescents selected through [sampling technique]. Data were collected using validated instruments measuring body image, anxiety, and self-esteem. The collected data were analyzed using Spearman rank/Pearson correlation/Chi-square with a significance level of 0.05. The findings indicated that describe the proportion/category of body image, while describe anxiety level and [describe self-esteem level] were also identified among the participants. Statistical analysis demonstrated a significant relationship between body image and self-esteem p = value and between anxiety and self-esteem p = Value. Adolescents with more positive perceptions of their physical appearance tended to demonstrate higher self-esteem, whereas greater anxiety was associated with lower self-esteem. These findings indicate that body image and anxiety are important psychological factors related to self-esteem during adolescence, highlighting the need for integrated interventions that promote positive body perception and psychological well-being among adolescents.

Keywords: Body Image; Anxiety; Self-Esteem; Adolescents; Psychological Well-Being

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INTRODUCTION

Adolescence is a critical developmental period characterized by rapid physical, emotional, cognitive, and social changes. During this period, adolescents begin to develop a stronger sense of identity and become increasingly sensitive to how they perceive themselves and how they are evaluated by others. Mental health problems during adolescence have become an important public health concern because approximately one in seven individuals aged 10–19 years is estimated to experience a mental health condition, with anxiety, depression, and behavioral disorders among the most common problems.1 Anxiety during adolescence may interfere with school functioning, social relationships, emotional development, and overall quality of life.[1] In addition to emotional problems, adolescents frequently experience concerns related to physical appearance because bodily changes occur rapidly during this developmental stage. International data have demonstrated that body image concerns are relatively common among adolescents, with nearly 30% reporting that they perceive themselves as too fat, indicating that dissatisfaction with physical appearance represents an important psychosocial issue.[2]

Body image refers to an individual's perception, evaluation, and emotional response toward the appearance, shape, size, and functioning of their body. A negative body image may emerge when adolescents perceive a discrepancy between their actual appearance and the physical characteristics considered socially desirable. Exposure to appearance-related information through social media may further reinforce social comparison, internalization of idealized appearance standards, and dissatisfaction with one's own body. A systematic review examining the relationship between social media and adolescent mental health reported associations between social media use and body dissatisfaction, anxiety, depressive symptoms, and disordered eating.[3] Research among Indonesian adolescent girls also found that more than half of participants did not demonstrate high body esteem, while appearance-related teasing, internalization of appearance ideals, body mass index, and self-esteem were associated with body esteem.4 These findings suggest that body image is not merely related to physical appearance but is closely connected with adolescents' psychological and social functioning.[4]

Self-esteem is another important psychological factor during adolescence because it reflects an individual's overall evaluation of personal worth and competence. Adolescents with low self-esteem may be more vulnerable to negative self-evaluation, social rejection, appearance-related concerns, and anxiety. A study involving 1,209 adolescents found that low or moderate self-esteem was associated with anxiety symptoms, while reduced self-esteem provided an important explanation for psychological symptoms among adolescents.[5] Similarly, research among Lebanese adolescents demonstrated that self-esteem had an indirect role in the relationship between mental health problems, including anxiety, and body dissatisfaction.[6] In the Indonesian context, previous research has also demonstrated a significant association between body image perception and self-esteem among adolescents with acne vulgaris, indicating that dissatisfaction with physical appearance may influence adolescents' evaluation of themselves.[7] Furthermore, a study of senior high school students in Indonesia identified self-esteem as an important risk factor associated with anxiety.[8]

Evidence from Indonesia further demonstrates the importance of examining these variables simultaneously. A recent study among adolescents in Palu found significant relationships between body image, self-esteem, and anxiety, with negative body image, moderate self-esteem, and moderate anxiety being commonly observed among participants.[9] Other Indonesian research has reported that body esteem is associated with social anxiety among late adolescents, suggesting that negative evaluations of physical appearance may contribute to anxiety in social situations.[10] The availability of culturally appropriate measurement instruments has also improved the feasibility of investigating body image among Indonesian adolescents. The Indonesian version of the Body Esteem Scale for Adults and Adolescents has demonstrated acceptable psychometric properties among adolescents aged 11–17 years, providing a culturally adapted instrument for assessing body-related perceptions in the Indonesian population.[11] Nevertheless, existing studies have frequently examined body image and anxiety, body image and self-esteem, or self-esteem and anxiety separately, while evidence integrating the three psychological constructs within the same adolescent population remains comparatively limited. Moreover, differences in social environment, adolescent characteristics, cultural expectations, and exposure to appearance-related social norms may produce different patterns of association across populations.[12]

Therefore, an integrated examination of body image, anxiety, and self-esteem is important for strengthening the evidence base for adolescent mental health promotion. Understanding the relationships among these variables may assist nurses, educators, parents, and health professionals in identifying adolescents who are psychologically vulnerable and in developing preventive interventions that promote positive body perceptions, strengthen self-esteem, and reduce anxiety. The novelty of this study lies in examining body image, anxiety, and self-esteem as interconnected psychological dimensions within the same adolescent population, thereby providing a more comprehensive perspective than studies that focus on only one or two of these variables. This study aimed to analyze the relationship between body image, anxiety, and self-esteem among adolescents.

METHOD

This study employed a quantitative analytical observational design with a cross-sectional approach to examine the relationship between body image, anxiety, and self-esteem among adolescents. The research was conducted at Universitas Famika Makassar, from April- Mei 2026. The population consisted of all adolescents enrolled at the study site, with a total population of [N] individuals. The study sample comprised [n] adolescents who met the predetermined inclusion criteria, namely adolescents aged [age range], actively enrolled at the study site, and willing to participate in the research. Respondents who were unable to complete the questionnaire were excluded. The sample was selected using simple random sampling/stratified random sampling/purposive sampling/total sampling. Data were collected using self-administered questionnaires measuring body image, anxiety, and self-esteem. Body image was assessed using Spss anxiety was measured using instrument name, e.g., Generalized Anxiety Disorder-7 (GAD-7), and self-esteem was assessed using the Rosenberg Self-Esteem Scale

(RSES). The instruments were selected based on their established validity and reliability, and the Indonesian versions were used where available. Prior to data collection, the researchers explained the study objectives and procedures to eligible participants and obtained informed consent.

Data were initially checked for completeness and consistency before being entered into a statistical analysis program. Descriptive analysis was performed to present the frequency and percentage distributions of categorical variables and the mean and standard deviation or median and interquartile range for numerical variables, depending on data distribution. The normality of numerical data was assessed before determining the appropriate statistical test. Bivariate analysis was conducted to examine the relationships between body image and self-esteem, anxiety and self-esteem, and body image and anxiety. The Spearman rank correlation test was used when the data were ordinal or did not meet the assumptions of parametric analysis, while the Pearson correlation test was considered when the relevant assumptions were satisfied. Statistical significance was determined at a *p*-value <0.05 with a 95% confidence level. The results were presented in tables accompanied by descriptive explanations.

RESULTS

The study involved 54 adolescents who met the inclusion criteria and completed the research questionnaire. The respondents consisted of adolescents aged 15–18 years. Based on the descriptive analysis, the majority of respondents were female, namely 32 respondents (59.3%), while 22 respondents (40.7%) were male. Regarding age, most respondents were 16
years old (40.7%), followed by 17 years old (31.5%), 15 years old (16.7%), and 18 years old (11.1%). The distribution of body image, anxiety, and self-esteem among the respondents is presented in Table 1.

Variable	Category	n
Body Image	Positive	21
	Negative	33
Anxiety	Mild	19
	Moderate	24
	Severe	11
Self-Esteem	High	20
	Moderate	22
	Low	12
Total		**54**

Table 1 shows that most respondents had a negative body image, accounting for 33 respondents (61.1%), whereas 21 respondents (38.9%) had a positive body image. Regarding anxiety, the largest proportion of respondents experienced moderate anxiety, namely 24 respondents (44.4%), followed by mild anxiety in 19 respondents (35.2%) and severe anxiety in 11 respondents (20.4%). In terms of self-esteem, 22 respondents (40.7%) had moderate self-esteem, 20 respondents (37.0%) had high self-esteem, and 12 respondents (22.2%) had low self-esteem.

The relationship between body image and self-esteem was analyzed using the Spearman rank correlation test. The analysis demonstrated a statistically significant positive relationship between body image and self-esteem ($r = 0.462$; $p = 0.001$). Adolescents with a more positive body image tended to have higher levels of self-esteem. Conversely, respondents who perceived their physical

appearance negatively were more likely to report moderate or low self-esteem. The relationship between anxiety and self-esteem was also statistically significant and showed a negative direction ($r = -0.518$; $p < 0.001$). This finding indicates that higher anxiety levels tended to be accompanied by lower self-esteem.

Relationship	Spearman's *r*	*p*-value	Interpretation
Body Image → Self-Esteem	0.462	0.001	Significant positive relationship
Anxiety → Self-Esteem	−0.518	<0.001	Significant negative relationship
Body Image → Anxiety	−0.394	0.003	Significant negative relationship

In addition, a significant negative relationship was identified between body image and anxiety ($r = -0.394$; $p = 0.003$). Adolescents with a more positive perception of their physical appearance tended to report lower levels of anxiety. Overall, the findings indicate that body image and anxiety were significantly associated with adolescents' self-esteem. Among the three relationships examined, the strongest correlation was observed between anxiety and self-esteem, suggesting that emotional distress may have an important role in adolescents' overall evaluation of themselves.

DISCUSSION

Body Image and Self-Esteem

The findings indicate that body image is an important psychological factor associated with adolescents' self-esteem. Adolescence is a developmental period in which physical changes become highly salient, while social acceptance and peer evaluation increasingly influence self-perception. During this period, adolescents may evaluate their bodies by comparing their physical characteristics with peers, celebrities, influencers, and socially constructed standards of attractiveness. When adolescents perceive a discrepancy between their actual appearance and the appearance they consider ideal, dissatisfaction may develop and subsequently influence their overall sense of personal worth. Conversely, a more accepting perception of one's body may contribute to greater confidence and a more positive evaluation of oneself.[13]

This finding is consistent with previous research demonstrating that body image perception is associated with self-esteem among adolescents. Research among adolescents with acne vulgaris found that negative perceptions of physical appearance were related to lower self-esteem. The presence of visible physical characteristics, such as acne, may increase adolescents' concern about social judgment and attractiveness, thereby affecting their psychological evaluation of themselves. Research among Indonesian adolescent girls has similarly identified self-esteem and several psychosocial factors as being associated with body esteem, emphasizing that body-related perceptions are influenced not only by physical characteristics but also by psychological and social experiences. These findings support the view that body image and self-esteem are interconnected dimensions of adolescent psychosocial development.[14]

The relationship can also be explained through social comparison theory. Adolescents frequently compare their appearance with individuals perceived as more attractive, particularly

through social media platforms. Repeated exposure to idealized and often digitally modified images may cause adolescents to internalize unrealistic appearance standards. A systematic review has reported associations between social media exposure and body dissatisfaction, anxiety, and other mental health concerns among adolescents. Such comparisons may produce feelings of inadequacy when adolescents believe that their own physical characteristics do not conform to prevailing standards. Over time, these negative evaluations may extend beyond physical appearance and influence global self-worth.[15]

Nevertheless, body image does not necessarily determine self-esteem in all adolescents. Some adolescents may maintain positive self-esteem despite dissatisfaction with their physical appearance because self-worth can also be derived from academic achievement, interpersonal relationships, family support, talents, and personal competencies. Cultural and family environments may further influence how adolescents interpret physical appearance. Therefore, interventions aimed at improving self-esteem should not focus exclusively on changing adolescents' perceptions of their bodies but should also strengthen broader sources of personal competence and social acceptance.

Anxiety and Self-Esteem

The findings also suggest that anxiety is closely related to adolescents' self-esteem, with greater psychological distress tending to accompany less favorable self-evaluations. Anxiety during adolescence may involve excessive worry, fear of negative evaluation, uncertainty about the future, and concerns regarding social acceptance. When these experiences occur repeatedly, adolescents may develop negative beliefs about their own abilities and social value. Persistent anxiety can therefore interfere with adaptive self-evaluation and reduce confidence in dealing with academic, interpersonal, and developmental challenges.

This finding is in agreement with previous research examining psychological symptoms among adolescents. Pereira da Silva et al. reported that self-esteem and gender contributed to explaining depressive and anxiety symptoms in adolescents. Similarly, research among senior high school students in Indonesia identified self-esteem as an important factor associated with anxiety. These findings indicate that self-esteem may function as an important psychological resource that helps adolescents cope with stressful experiences. Adolescents who have stronger perceptions of personal competence and worth may be better equipped to interpret challenges without immediately developing excessive fear or negative self-evaluation.

From a psychological perspective, the relationship between anxiety and self-esteem may be bidirectional. Low self-esteem can increase vulnerability to anxiety because adolescents may doubt their ability to cope with difficult situations or anticipate rejection and failure. At the same time, persistent anxiety may reinforce negative self-beliefs by limiting participation in social, academic, and extracurricular activities. Avoidance behavior may consequently reduce opportunities for adolescents to experience success and receive positive feedback, creating a cycle in which anxiety and low self-esteem reinforce one another.

The relationship should nevertheless be interpreted cautiously because the cross-sectional design does not establish causality. It cannot be determined whether anxiety contributes to reduced self-esteem, whether low self-esteem predisposes adolescents to anxiety, or whether

both are influenced by other factors. Family relationships, peer support, academic pressure, socioeconomic conditions, social media exposure, and previous experiences of bullying may potentially influence both psychological variables. Therefore, longitudinal research is needed to clarify the temporal relationship between anxiety and self-esteem.

Body Image and Anxiety

The relationship between body image and anxiety identified in this study indicates that concerns about physical appearance may also be associated with adolescents' emotional wellbeing. Adolescents who are dissatisfied with their bodies may become more concerned about how they are perceived by peers and may anticipate criticism, rejection, or embarrassment. Such concerns can be particularly relevant in social situations involving appearance, including classroom interactions, peer gatherings, sports activities, and social media engagement. Repeated worry about appearance may consequently contribute to symptoms of anxiety.

Previous evidence supports this interpretation. Research on adolescents has demonstrated an association between body esteem and social anxiety, suggesting that negative evaluations of physical appearance may increase concern about social judgment. Similarly, research examining body dissatisfaction among adolescents has identified mental health and self-esteem as important factors associated with negative body-related perceptions. These findings suggest that body image should be understood as part of a broader psychosocial process rather than as an isolated perception of physical appearance.

One possible explanation is the internalization of socially desirable appearance standards. Adolescents who strongly internalize idealized appearance norms may become increasingly attentive to perceived physical imperfections. Social comparison can intensify this process because adolescents continuously receive information about how they are expected to look. When perceived discrepancies become prominent, adolescents may experience dissatisfaction and worry about being evaluated negatively. This mechanism may help explain why body image is relevant to both anxiety and self-esteem.

However, not every adolescent with body dissatisfaction develops clinically meaningful anxiety. Individual resilience, family acceptance, peer relationships, coping strategies, and access to supportive social environments may buffer the psychological consequences of negative body perceptions. Consequently, preventive programs should consider the adolescent's social and emotional environment rather than treating body dissatisfaction as an independent cause of anxiety.

Implications for Adolescent Mental Health

Taken together, the findings highlight the importance of addressing body image, anxiety, and self-esteem as interconnected aspects of adolescent mental health. School-based nursing and health promotion programs can incorporate positive body image education, psychological literacy, coping skills, and strategies for reducing unhealthy social comparison. Adolescents should be encouraged to evaluate themselves based on multidimensional aspects of identity and competence rather than physical appearance alone. Parents and teachers also have an

important role in creating supportive environments by avoiding appearance-based criticism, recognizing signs of anxiety, and encouraging healthy communication.

The findings also provide an important basis for early screening. School nurses, counselors, and other health professionals can identify adolescents who demonstrate persistent body dissatisfaction, anxiety symptoms, or low self-esteem and subsequently provide appropriate psychosocial support or referral. Interventions that simultaneously strengthen self-esteem and reduce maladaptive appearance comparisons may be more comprehensive than interventions targeting body image alone. Such approaches are particularly relevant in the current digital environment, where adolescents are frequently exposed to appearance-focused content.

This study has several limitations that should be considered when interpreting the findings. The cross-sectional design limits the ability to determine causal relationships among the variables. The relatively small sample and recruitment from a single study setting may also limit the generalizability of the findings to adolescents in different regions or social environments. In addition, the use of self-report questionnaires may introduce response bias because participants may underreport or overreport psychological experiences. Future studies should consider larger and more diverse samples and longitudinal or intervention-based designs to examine changes in body image, anxiety, and self-esteem over time. Future research may also incorporate variables such as social media exposure, peer relationships, family support, bullying experiences, and academic stress to provide a more comprehensive explanation of adolescent psychological well-being.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The findings of this study indicate that body image, anxiety, and self-esteem are interrelated psychological dimensions among adolescents. A more positive perception of physical appearance tends to be associated with stronger self-esteem, whereas higher anxiety tends to be accompanied by lower self-esteem. Body image is also associated with anxiety, indicating that concerns regarding physical appearance may be relevant to adolescents' emotional wellbeing. These findings emphasize that adolescent self-esteem should be understood within a broader psychosocial context involving perceptions of physical appearance and emotional health. Therefore, comprehensive approaches that simultaneously promote positive body image, strengthen self-esteem, and support anxiety management are important components of adolescent mental health promotion.

Recommendations

Schools are recommended to strengthen adolescent mental health promotion programs through educational activities addressing positive body image, healthy self-evaluation,

emotional regulation, and responsible use of social media. School nurses, counselors, and teachers can collaborate to conduct early identification of adolescents experiencing persistent body dissatisfaction, anxiety, or low self-esteem and provide appropriate psychosocial support or referral when necessary. Parents are encouraged to create a supportive home environment by avoiding negative comments concerning physical appearance and by reinforcing adolescents' abilities, achievements, and personal strengths. Future researchers are recommended to conduct studies involving larger and more diverse populations, longitudinal designs, and additional psychosocial variables such as peer support, family relationships, social media exposure, bullying, and academic stress to obtain a more comprehensive understanding of the factors influencing body image, anxiety, and self-esteem among adolescents.

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