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The Cost of the Perfect Body: Influence Mechanism of Internalization of Media Appearance Ideals on Eating Disorder Tendencies in Adolescents

Authors: Bi, Xiaoyan, Liang, Qian, Jiang, Guangyan, Deng, Min, Cui, Hongbo, Ma, Yankun

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Abstract

Some studies have examined the relationship between internalization of media appearance ideals and eating disorders. However, few have discussed the relationship between eating disorder tendencies. To fill this research gap, the aim of this study was to explore the influencing mechanisms of internalization of media appearance ideals on adolescents' eating disorder tendencies in Chinese cultural context. The Sociocultural Attitudes Towards Appearance Questionnaire, Eating Attitude Test-26, Physical Self-Description Questionnaire, Body Image Depression Questionnaire and Multidimensional Scale of Perceived Social Support were employed in this study to investigate 1523 adolescents. The collected data were analyzed using SPSS 26.0 and AMOS 24.0. The results showed that: 1) internalization of media appearance ideals had a significant positive predictive effect on adolescents' eating disorder tendencies; 2) internalization of media appearance ideals significantly influenced adolescents' eating disorder tendencies through the mediating role of body esteem and body image disturbance respectively, and also influenced eating disorder tendencies through the chain mediating of both; and 3) social support played a moderating role between body image disturbance and eating disorder tendency. Our findings suggest distinct pathways through which internalization of media appearance ideals may influence adolescents' eating disorder tendencies. It is suggested that reducing body image disturbance and enhancing social support can help reducing eating disorder tendency.

Full Text

The Cost of the Perfect Body: Influence Mechanism of Internalization of Media Appearance Ideals on Eating Disorder Tendencies in Adolescents

Xiaoyan Bi^{1,2}, Qian Liang^{1,3}, Guangyan Jiang⁴, Min Deng⁵, Hongbo Cui¹, Yankun Ma^{1*}

¹School of Humanities and Management, Kunming Medical University, Kunming, China

²[Additional affiliation not provided]

³[Additional affiliation not provided]

⁴[Additional affiliation not provided]

⁵[Additional affiliation not provided]

Qian Liang and Xiaoyan Bi are co-first authors of this article.

Correspondence: Yankun Ma (631360184@qq.com)

Background

While previous studies have examined the relationship between internalization of media appearance ideals and eating disorders, few have specifically investigated the relationship with eating disorder tendencies. To address this research gap, this study aimed to explore the influencing mechanisms of internalization of media appearance ideals on adolescents' eating disorder tendencies within the Chinese cultural context.

Methods

We administered the Sociocultural Attitudes Towards Appearance Questionnaire, Eating Attitude Test-26, Physical Self-Description Questionnaire, Body Image Depression Questionnaire, and Multidimensional Scale of Perceived Social Support to 1,523 adolescents. Data were analyzed using SPSS 26.0 and AMOS 24.0.

Results

The results showed that: (1) internalization of media appearance ideals had a significant positive predictive effect on adolescents' eating disorder tendencies; (2) internalization of media appearance ideals significantly influenced adolescents' eating disorder tendencies through the mediating role of body esteem and body image disturbance respectively, and also influenced eating disorder tendencies through the chain mediating effect of both variables; and (3) social support played a moderating role between body image disturbance and eating disorder tendency.

Conclusions

Our findings suggest distinct pathways through which internalization of media appearance ideals may influence adolescents' eating disorder tendencies. The results indicate that reducing body image disturbance and enhancing social support can help mitigate eating disorder tendencies.

Keywords: Internalization of media appearance ideals, Eating disorder tendency, Body esteem, Body image disturbance, Social support

Introduction

In recent years, the prevalence of eating disorders has gradually increased in China [1-3]. Eating disorders are mental health conditions characterized by abnormal eating behaviors and psychological disturbances, often accompanied by mania, anxiety, suicide ideation, and other adverse emotions and behaviors that seriously threaten individuals' physical and mental health [4-6]. The transition from normal eating patterns to clinical eating disorders involves a phase that typically includes a series of progressively worsening psychological and behavioral changes. Notably, not every individual with eating problems meets clinical diagnostic criteria [7,8]. Consequently, in addition to screening for clinical eating disorders, researchers have begun focusing on individuals with subclinical eating disorders—that is, individuals with eating disorder tendencies. Eating disorder tendencies refer to a range of cognitive, affective, and behavioral patterns related to eating, most commonly observed during adolescence [9], and characterized by high prevalence and universality [10,11]. The more an individual's eating attitudes and behaviors deviate from normative patterns, the more disordered their eating patterns become, and the higher their potential propensity to develop clinical eating disorders [12,13]. However, few studies have examined the influencing mechanisms of adolescent eating disorder tendencies in China.

With the rapid development of media in China and its substantial impact on adolescent development, an in-depth investigation into the factors influencing Chinese adolescents' eating disorder tendencies holds significant practical value for the prevention and intervention of eating disorder problems.

Internalization of Media Appearance Ideals and Eating Disorder Tendencies

Internalization of media appearance ideals (IMAI) is considered a key risk factor for the development of eating disorders [14-16]. Social comparison and social learning theories suggest that individuals, to some extent, cognitively accept society's narrow standards of attractiveness as their personal standards and take action to meet those standards [17,18]. The implicit process involves disordered eating and extreme exercise as actions taken to internalize an ideal characterized by thinness or muscularity, which is acquired through exposure

to supportive social resources. One of the most common forms of exposure is the portrayal of thinness or muscularity as personal attractiveness or success in mass media [19], from which individuals learn to conform to and internalize current aesthetic trends by comparing themselves with media images. Studies have shown that media (e.g., television, advertisements, and magazines) influence individuals' food choices and eating behaviors through internalization of media appearance ideals. For example, Couture et al. [20] and Barney et al. [21] found that internalization of media appearance ideals increased body image anxiety and dissatisfaction, which influenced individuals to exhibit fluctuating eating patterns and develop behaviors such as avoidant and restrictive food intake, further increasing the risk of eating disorders. Wade et al. [22] found that internalization of media appearance ideals was significantly and positively associated with disordered eating behaviors. Additionally, studies have found that communication of media ideal body images affects individuals' emotional, behavioral, and physical health in China, such as influencing appearance anxiety, transitional control of weight and body size [23], formation of restrictive diets [24], and eating disorders [25]. In summary, internalization of media appearance ideals significantly impacts both individuals' eating attitudes and behaviors.

Therefore, the present study hypothesizes that internalization of media appearance ideals has a significant positive predictive effect on adolescent eating disorder tendency.

The Chain Mediation of Body Esteem and Body Image Disturbance

Most studies have shown a significantly negative correlation between body esteem and eating disorder tendencies; that is, the higher the level of body esteem, the lower the eating disorder tendencies [26,27]. More importantly, adolescents are in a period of rapid self-awareness development, and their psychologically "semi-infantile and semi-mature" status makes this group particularly vulnerable to body esteem issues [28,29], which in turn affect individual eating disorder tendencies. The dimensional theory of self-evaluation also suggests that individuals determine their level of self-worth and self-esteem by evaluating their appearance, abilities, and personality [30]. Body esteem, as an important dimension of individual self-evaluation [31], influences individuals' perception and emotional experience of their own bodies through self-evaluation, thereby affecting eating behavior. Thus, decreased body esteem may be an important factor contributing to increased eating disorder tendencies.

Furthermore, research demonstrates a negative relationship between internalization of media appearance ideals and body esteem. Specifically, the more individuals identify the ideal body presented by media as their own ideal, the lower their body esteem. For example, Soohinda et al. [33] found a negative relationship between levels of internalization of media appearance ideals and body esteem among female college students, while Ricciardelli et al. [34] found this relationship among male adolescents. This negative relationship has also been verified across different cultures [35]. These studies suggest that internalizing

media appearance ideals negatively impacts body esteem. Sociocultural theory of body image suggests that the greater the discrepancy between an individual's perceived self-image and the ideal body image, the more likely it is to lead to body dissatisfaction and low body self-esteem [14]. Low body esteem as a negative experience is often accompanied by body shame, rumination, and fears of negative social appearance evaluation and anxiety [36,37], which can compel individuals to take action to lose weight and maintain what they perceive as a "good" body shape, thus developing eating disorder tendencies. Additionally, studies have found that body esteem plays a mediating role in the relationship between internalizing ideal body size and eating disorders [38], social media use and female eating disorder tendencies [36,39], and body satisfaction and eating disorders [40,41]. While some studies on body esteem and eating disorder tendencies in adolescents have focused on physical exercise and female college students in China [42], few have examined adolescents more broadly. Therefore, this study hypothesizes that body esteem significantly mediates the relationship between internalization of media appearance ideals and eating disorder tendencies.

The tripartite influence model suggests that media is a key factor influencing individuals' body image, and that body image information presented in media may induce individuals to make social comparisons, which in turn triggers denial or even aversion to their own body image, resulting in body image disturbance [14,43]. Additionally, social media is known to be highly appearance-focused, with content and messaging promoting idealized, unrealistic, and unachievable beauty ideals and standards, which directly aggravates the generation of body image disturbance. Passive social media use also has a significantly positive predictive effect on body image disturbance [44], and young women exposed to "thin is ideal" advertisements report greater body image dissatisfaction and more negative emotions. Thus, as a sociocultural transmission tool, when individuals internalize media images characterized as "thin" or "muscular," internalization of media appearance ideals can lead to cognitive biases about their own body image, which in turn can cause body image disturbance.

Recent studies have shown that body image disturbance is one of the important predictors of eating disorder tendencies in adolescents. Body image disturbance includes dissatisfaction with physical appearance, excessive attention to body image, and excessive concern about body shape, all of which may lead to the onset and development of eating disorders [45]. Some studies have found that body image disturbance is positively associated with eating disorder tendency; that is, the more severe the body image disturbance, the higher the tendency toward eating disorders [10]. On one hand, emotion regulation and avoidance theories of eating disorders suggest individuals relieve or escape from negative emotional experiences (such as worry and anxiety) through disordered eating behaviors [21]. On the other hand, the prevalence of body image disturbance is high among adolescents in China [46], and 30.5% of adolescents with body image disturbance have taken weight loss measures [47], making it necessary to deepen research on body image disturbance and eating disorder tendencies

among adolescents. At the same time, body image disturbance may mediate the relationship between internalization of media appearance ideals and eating disorder tendencies [48,49]. Sociocultural theory suggests that the more adolescents are exposed to and identify with sociocultural messages about ideal body images from society and media, the more likely they are to develop cognitive and perceptual biases toward their own body image, which can lead to worry, anxiety, and irregular eating behaviors [47,50]. Therefore, the present study hypothesizes that body image disturbance significantly mediates the relationship between internalization of media appearance ideals and eating disorder tendencies.

Furthermore, there is a strong relationship between body esteem and body image disturbance. Increasing body esteem can reduce dissatisfaction and anxiety about one's body image, thereby reducing levels of body image disturbance [36]. In addition, body esteem can promote more positive and healthy body perceptions and shape perceptions, thus improving body satisfaction [51]. The cognitive self-assessment model suggests that individuals tend to evaluate their own appearance, which can be interpreted as a level of self-approval. When individuals do not adequately approve of themselves, they are likely to have a negative view of their body image and may perceive others as having negative views of them, resulting in decreased self-esteem levels [52]. Moreover, media plays a crucial role in shaping social appeal. The shaping of ideal images influences how adolescents perceive their body image [53,54] and generates concerns about their body image when comparing the ideal image with their real image, triggering emotional and psychological distress that leads to disordered eating [55,56]. Therefore, the present study hypothesizes a significant chain mediating role of body esteem and body image disturbance in the relationship between internalization of media appearance ideals and eating disorder tendencies.

The Moderating Role of Social Support

High levels of social support can weaken the relationship between various forms of social anxiety and eating disorder symptoms [57,58], whereas inadequate or lack of social support can lead to the persistence of negative emotions, thereby increasing the occurrence of eating disorders, prolonging the cycle of eating disorders, and exacerbating difficulties in recovery from bulimia [59]. The buffering effect of social support suggests that when individuals are under stress, help and support from their social support system can reduce the negative effects of stress [60]. That is, social support facilitates adjustment of individuals' negative perceptions of eating behaviors, which in turn adjusts their eating behaviors. Previous empirical studies have also shown that perceived social support in early adolescence is negatively associated with negative eating attitudes and behaviors later in life [61]. In summary, social support may help adolescents cope with frustration and prevent eating problems, as well as enhance personal well-being during key stages of adolescent development.

In addition, social support is a common moderating variable that has been found

to play a moderating role in negative emotions or problematic behaviors. For example, social support has been found to play a significant moderating role in the relationship between peer aggression and adolescents' subjective well-being [62], and between narrative disorders and interpersonal relationships among secondary school students [63]. Further, previous research has shown that social support mitigates the relationship between social anxiety and eating disorders [57], and protects individuals against problematic eating behaviors (e.g., restrictive or binge eating behaviors) [64,65]. The protective effect on emotional and eating problems is stronger when social support is higher [66]. It is evident that social support can act as a buffer and protector when individuals experience adverse emotional feelings and problematic behaviors due to external stress. Therefore, this study hypothesizes that social support plays a significant moderating role between body image disturbance and eating disorder tendencies.

In summary, this study investigates three main questions: (1) how internalization of media appearance ideals relates to eating disorder tendencies; (2) whether body esteem and body image disturbance play a chain mediating role in the relationship between internalization of media appearance ideals and eating disorder tendencies; and (3) whether social support moderates the second half of this chain-mediated model (see Fig. 1 [Figure 1: see original paper]).

Materials and Methods

Participants

This study recruited 1,523 middle and high school students in Guangzhou, China, to complete questionnaires using convenience sampling. The mean age of participants was 14.65 years ($SD = 1.81$), with 728 (47.80%) males and 795 (52.20%) females. The distribution of middle school students was 340 (22.30%) in first grade, 285 (18.71%) in second grade, and 137 (9.70%) in third grade. The distribution of high school students was 291 (19.71%) in first grade, 207 (13.60%) in second grade, and 263 (17.30%) in third grade. Additionally, when screening for eating disorder tendencies using the EAT-26, 1,161 students (76.23%) scored 0–10 (approximately normal range), 237 (15.56%) scored 11–19 (tendency toward anorexia or bulimia), and 125 (8.21%) scored 20 or above (highly likely to have anorexia or bulimia).

Measures

The Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3). To assess sociocultural attitudes toward appearance, participants completed the SATAQ-3 [67]. Liu et al. [68] revised the questionnaire for use in China, achieving satisfactory psychometric properties. The questionnaire consists of 15 items across two dimensions: media internalization and media concern. Responses are given on five-point scales ranging from 1 (completely

disagree) to 5 (totally agree), with higher scores reflecting stronger tendencies to adapt appearance toward sociocultural expectations. In this study, the Cronbach's alpha coefficient for the scale was 0.83, and 0.83 and 0.67 for each dimension respectively.

Eating Attitude Test-26 (EAT-26). To assess eating attitudes, we employed the EAT-26 developed by Garner et al. [69]. Wang et al. [70] revised the questionnaire for use in China, achieving satisfactory psychometric properties. The questionnaire consists of 26 items across three dimensions: dieting, bulimia and food concern, and oral control. Each item is rated on a six-point scale according to symptom severity (1 = never, 6 = always). The study used the recommended scoring method for screening (3 = always, 2 = often, 1 = sometimes, 0 = rarely/never). Higher scores indicate more abnormal eating attitudes and greater likelihood of eating disorders. A score of 0–10 is considered approximately normal; 11–19 indicates a tendency toward anorexia or bulimia; and 20 or above indicates high likelihood of anorexia or bulimia. In this study, the Cronbach's alpha coefficient for the scale was 0.83, and 0.82, 0.70, and 0.74 for each dimension respectively.

Physical Self-Description Questionnaire (PSDQ). To assess body esteem, we employed the PSDQ developed by Marsh et al. [71]. Yang et al. [72] revised the questionnaire for use in China, achieving satisfactory psychometric properties. We used the overall body dimension of the scale (6 items) to measure body esteem. Responses are given on six-point scales ranging from 1 (completely disagree) to 6 (completely agree), with higher scores reflecting higher levels of individual body esteem. In this study, the Cronbach's alpha coefficient for the scale was 0.91.

Body Image Depression Questionnaire (BIDQ). We used the BIDQ developed by Gao et al. [73] to measure the level of body image disturbance among adolescents. The BIDQ consists of 25 items across four dimensions: body image disturbance, gender disturbance, sexual organ disturbance, and appearance disturbance. The scale is scored on a 3-point scale (1 = agree, 3 = disagree), with lower scores indicating higher levels of body image disturbance. In this study, the Cronbach's alpha coefficient for the scale was 0.88, and 0.80, 0.65, 0.60, and 0.87 for each dimension respectively.

Multidimensional Scale of Perceived Social Support (MSPSS). To assess social support, we employed the MSPSS developed by Zimet et al. [74]. Zhao and Li [75] revised the questionnaire for use in China, achieving satisfactory psychometric properties. The MSPSS is a widely used 12-item measure that assesses perceived social support from three sources: friends, family, and significant others. Responses are given on five-point scales ranging from 1 (completely disagree) to 5 (totally agree), with higher scores reflecting higher levels of social support. In this study, the Cronbach's alpha coefficient for the scale was 0.93, and 0.89, 0.86, and 0.86 for each dimension respectively.

Procedure and Analysis

This study used an anonymous self-report questionnaire administered in group format in classrooms using paper versions. Researchers were rigorously trained before questionnaire administration, and the administration process followed strict procedures. The collected data were analyzed using SPSS 26.0 for basic data organization, and AMOS 24.0 was used to complete the mediation and moderation model analysis. Pearson correlation was conducted to examine correlations among all main variables. The primary analysis of the mediation model used path analysis with maximum likelihood (ML) estimation. The bootstrap method, which repeatedly draws random samples from the original data with replacement, was used to evaluate mediation effects. We used 5,000 bootstrap resamples to compute 95% confidence intervals, which were then tested for significance by examining whether they contained zero. We controlled for gender, age, grade, and monthly household income, as these variables may impact the results [76-78].

Results

Demographic Statistics and Correlations

We tested for common method variance (CMV) using Harman's Single-Factor Test. The first factor accounted for only 16.21% of total variation (less than 40%), indicating no significant CMV.

Demographic characteristics and correlations among study variables are summarized in Table 1. Results showed that internalization of media appearance ideals was negatively associated with body esteem, body image disturbance, and social support ($p < 0.01$), while positively associated with eating disorder tendencies ($p < 0.01$).

The Chain Mediating Effect

Using Model 6 in the SPSS macro program PROCESS (which tests chain mediation models), we examined the mediating effect of body esteem and body image disturbance in the relationship between internalization of media appearance ideals and eating disorder tendencies, controlling for gender, age, grade, and income. Results showed that internalization of media appearance ideals positively predicted eating disorder tendencies ($\beta = 0.33$, $p < 0.001$). When both internalization of media appearance ideals and body esteem predicted body image disturbance, internalization of media appearance ideals significantly negatively predicted body image disturbance ($\beta = -0.42$, $p < 0.001$) and body esteem significantly positively predicted body image disturbance ($\beta = 0.31$, $p < 0.001$). When internalization of media appearance ideals, body esteem, and body image disturbance simultaneously predicted eating disorder tendencies, internalization of media appearance ideals significantly positively predicted eating

disorder tendencies ($\beta = 0.13$, $p < 0.001$), body esteem significantly negatively predicted eating disorder tendencies ($\beta = -0.15$, $p < 0.001$), and body image disturbance significantly positively predicted eating disorder tendencies ($\beta = -0.35$, $p < 0.001$). The mediation effect analysis results (see Table 2) showed that body esteem and body image disturbance each had significant mediating effects between internalization of media appearance ideals and eating disorder tendencies, and the chain mediating effect was also significant.

The Moderated Mediation Test

According to the hypothesized model (see Fig. 1 [Figure 1: see original paper]), we used AMOS 24.0 to empirically examine the moderated mediation effect, exploring whether social support moderates the relationship between body image disturbance and eating disorder tendencies. The model fit well ($\chi^2/df = 5.293$, RMSEA = 0.053, NFI = 0.979, IFI = 0.983, TLI = 0.966, CFI = 0.983). Standardized estimates and significance levels for each path coefficient are shown in Figure 2 [Figure 2: see original paper].

The moderated mediation effects of body esteem and body image disturbance were both significant in this model, with the effect sizes of the two mediated pathways accounting for 12.88% and 47.80% of the total effect size respectively. The chain mediating effect of body esteem and body image disturbance together was also significant, accounting for 6.44% of the total effect size (see Table 3).

To illustrate whether social support moderated the relationship between body image disturbance and eating disorder tendencies, we plotted predicted eating disorder tendencies against higher and lower body image disturbance at different levels of social support (see Fig. 3 [Figure 3: see original paper]). Results showed that body image disturbance was a significant negative predictor of eating disorder tendencies when moderated by low levels of social support ($\beta = -0.38$, $p < 0.001$, CI [-0.449, -0.303]), and also a significant negative predictor when moderated by high levels of social support ($\beta = -0.22$, $p < 0.01$, CI [-0.307, -0.129]). These results suggest that when adolescents perceive higher levels of social support, the negative effect of body image disturbance on eating disorder tendencies is reduced.

Discussion

Eating disorders pose a serious threat to the physical and psychological health of adolescents as a global public health problem. In the EAT-26 screening test used in this study, although the majority of students scored in the normal range (76.23%), more than one-fifth (23.77%) showed anorexic or bulimic tendencies and were at high risk for developing anorexia or bulimia. This indicates that eating disorder tendencies are relatively common among adolescents and cannot be ignored.

The present study shows that internalization of media appearance ideals significantly and positively predicted eating disorder tendencies, consistent with previous research [79,80]. When perceived media pressure is internalized by individuals, self-comparisons are triggered, with girls primarily comparing themselves to the internalized thin-ideal [36] and boys primarily comparing themselves to the internalized muscle-ideal [81]. Based on these comparisons, cognitive and emotional imitation and identification are triggered [82], which may lead individuals to become overly concerned about their bodies and diets, thus developing extreme eating attitudes and behaviors that may progress into eating disorders [83]. Additionally, previous research has found that images of thinness in media may act as a disinhibiting factor for restrained eaters—that is, exposure to these images can produce opposite effects on restrained eaters [84,85], with negative long-term consequences. Internalization of media appearance ideals may also serve as a reminder cue for non-restricted eaters [82]; the internalized image triggers excessive attention in eaters, which may result in contrast bias and visual adaptation and increase the tendency to overeat. This is supported by cognitive-behavioral theory [86], which suggests that key stimulus features (e.g., thin and muscular ideals) activate cognitive biases in individuals with high-level self-schemas [87], and that individuals may develop eating disorder tendencies through this processing.

This study found that body esteem mediates the relationship between internalization of media appearance ideals and eating disorder tendencies. This result suggests that individuals with greater internalization of media images are likely to have lower body esteem, which triggers higher risk of eating disorders, further supporting the biopsychosocial model theory of body image [88]. That is, individuals who internalize the thin and muscular ideal appearance conveyed by social media may develop negative evaluations and dissatisfaction, a psychological state that lowers an individual's body esteem. When body esteem is lowered, individuals may adopt unhealthy eating behaviors (e.g., dieting, binge eating) in attempts to change their body image, thus increasing eating disorder tendencies [39,89]. Additionally, according to sociocultural theory of body image, high sociocultural expectations of body image make individuals likely to experience low body esteem, triggering negative emotions [14]. Individuals experiencing negative emotions are often led to dieting and other weight loss behaviors, which in turn trigger eating disorder tendencies [90]. Our findings suggest that to prevent eating disorders in adolescents, we need to focus on ideal body image and body esteem, and help adolescents develop healthy self-esteem and self-evaluation.

In addition, the present study explored the role of body image disturbance in the relationship between internalization of media appearance ideals and eating disorder tendencies, finding that body image disturbance plays a significant mediating role, consistent with previous research [36,91]. Media exposure makes individuals actively or passively encounter ideal body images, and such contact may lead adolescents to pay attention to or pursue the ideal body type [14]. Furthermore, adolescents are at a critical time of dramatic physical development,

during which individuals are more attentive to body messages and therefore more vulnerable to body image disturbance [89,92]. The combination of media exposure and selective attention leads to dissatisfaction with one's own body, which triggers body image disturbance and further increases individuals' risk of eating disorders.

Moreover, this study found that body esteem and body image disturbance chain mediate the relationship between internalization of media appearance ideals and eating disorder tendencies. This suggests that internalization of media appearance ideals increases individuals' eating disorder tendencies by reducing their body esteem and increasing body image disturbance. Body image theory suggests that an individual's self-esteem level is a major factor in forming the self-concept of body image [93-95]. Meanwhile, the cognitive self-assessment model suggests that individuals tend to evaluate their own appearance to achieve self-approval [96], and that when individuals do not fully recognize and accept their appearance, they are likely to develop low levels of body esteem and experience body image disturbance [97]. Therefore, attention should be paid to this chain mediating effect to mitigate adolescents' eating disorder tendencies by strengthening body esteem and reducing body image disturbance. Simultaneously, there is a need to address the influence of the media environment on adolescents' body image and improve adolescents' cognitive and critical abilities regarding ideal body images.

The results of this study show that social support moderates the relationship between body image disturbance and eating disorder tendency, with higher social support reducing the negative effect of body image disturbance on eating disorder tendencies. This suggests that as an important protective factor, social support buffers the negative emotions generated by media stress, reducing the risk of eating disorders [98], consistent with the social buffering effect model and previous research [99]. Social support helps individuals reassess potential threats, provides positive emotions [100], and offers informational and substantial assistance [101], which helps reduce individuals' identification with thinness and muscularity as the ideal body and increase feelings of self-worth [102], enhance individuals' social engagement and social support networks [103], thus alleviating the negative emotions of body disturbance. Additionally, cognitive resource theory suggests that individuals need to consume cognitive resources when faced with stress, and excessive consumption of cognitive resources may lead to the onset and intensification of stress reactions [104]. Social support can provide additional cognitive resources to help individuals cope with negative emotions associated with internalization of media appearance ideals. Specifically, social support can alleviate the emotional burden that individuals develop in response to internalization of media appearance ideals and release additional cognitive resources. Thus, social support can help alleviate physical disturbance and mitigate the onset and intensification of eating disorder tendencies.

Implications

This study reveals the mechanism by which internalization of media appearance ideals affects eating disorder tendencies among adolescents and provides empirical support and theoretical guidance for the prevention and intervention of eating disorder problems. First, there should be strict supervision over media to guide students to correctly interpret messages about ideal body images. Of course, restraining external factors alone is insufficient. Schools and parents should guide students to use the internet correctly and view ideal body images in the media rationally, so that these over-glorified and unhealthy body images do not affect adolescents' correct perceptions.

Second, adolescents should raise their level of body self-esteem and improve their sense of body self-worth. Adolescents are at the stage of forming their worldview and values, and reducing extreme eating behaviors requires parents, schools, and teachers to guide students to view and accept their bodies correctly and develop a healthy concept of body beauty.

Third, we should emphasize body image education for adolescents. Body image education focuses on individuals' cognitive, emotional, and behavioral responses to their own bodies. In secondary school, adolescents are at a critical stage of physical and psychological development and face many challenges [105]. Therefore, it is important to enhance body image education for adolescents.

Fourth, we should provide support in multiple ways while improving individuals' ability to perceive social support. Families and schools should pay more attention to the emotional states and behaviors of adolescents and fully utilize the power of peer support to help each other, so that adolescents can have more support and be more positive when dealing with external negative influences and their own negative emotional experiences.

Conclusions

This study demonstrates that internalization of media appearance ideals is associated with eating disorder tendencies. Furthermore, the link between internalization of media appearance ideals and eating disorder tendencies is chain mediated primarily by body esteem and body image disturbance. Social support plays a moderating role between body image disturbance and eating disorder tendencies, with higher social support reducing the negative effect of body image disturbance on eating disorder tendencies.

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Author Contributions

Study conception and design and draft manuscript preparation: Qian Liang and Yankun Ma. Data collection: Qian Liang and Yankun Ma. Analysis and interpretation of results: Xiaoyan Bi, Guangyan Jiang, Min Deng, Hongbo Cui. All authors reviewed the results and approved the final version of the manuscript.

Data Availability

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

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Ethics Approval and Consent to Participate

The study was approved by the Ethics Committee of Guangzhou University in accordance with the Declaration of Helsinki. Informed consent was obtained from each participant.

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