

The Impact of Social Media Use on Adolescent Body Dissatisfaction and Its Underlying Mechanisms

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Abstract

Body dissatisfaction is widely prevalent among adolescent populations, and social networking site use is considered a key influencing factor. Systematically reviewing the manifestations, mechanisms, and moderating factors through which social networking site use affects adolescent body dissatisfaction is of great significance for the prevention and intervention of this issue. The extent, form, behaviors, and motivations of social networking site use may all impact adolescent body dissatisfaction. This influence primarily operates through three pathways: “appearance comparison and ideal body internalization,” “self-objectification and body surveillance,” and “appearance self-schema and appearance self-discrepancy.” Additionally, this influence is moderated by personality factors including Big Five personality traits, narcissism, and perfectionism; self-cognitive factors such as self-compassion and self-concept clarity; and media-cognitive factors including social media literacy and social media appearance consciousness. Future research should deepen localized studies on the association between social networking site use and body dissatisfaction, broaden the research scope across subjects, methods, content, and other dimensions, and further validate and simplify the theoretical framework, with the aim of identifying more online intervention programs beneficial for improving adolescent body dissatisfaction.

Full Text

The Influence of Social Networking Site Use on Adolescents' Body Dissatisfaction and Its Internal Mechanisms

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Abstract

Body dissatisfaction is widespread among adolescents, and social networking site use is considered a key contributing factor. Systematically examining the manifestations, pathways, and moderating factors through which social networking site use influences adolescent body dissatisfaction is essential for prevention and intervention efforts. The degree, form, behaviors, and motivations of social networking site use may all impact adolescents' body dissatisfaction. This influence operates primarily through three pathways: "appearance comparison and ideal body internalization," "self-objectification and body surveillance," and "appearance self-schema and appearance self-discrepancy." Furthermore, this relationship is moderated by personality factors (including the Big Five personality traits, narcissism, and perfectionism), self-cognitive factors (such as self-compassion and self-concept clarity), and media-cognitive factors (including social media literacy and appearance-related social media consciousness). Future research should deepen localized investigations into the relationship between social networking site use and body dissatisfaction, broaden research domains across subjects, methods, and content, and further validate and simplify theoretical frameworks to develop more effective online intervention programs for improving adolescent body dissatisfaction.

Keywords: body dissatisfaction, social networking sites, adolescents

With the rise of the self-media era, social networking platforms such as Douyin, Kuaishou, and Xiaohongshu have emerged rapidly. Using these platforms to display one's physical appearance has become a common phenomenon, yet this trend has also triggered a series of mental health issues, including body dissatisfaction. As an emotional dimension of the physical self, body dissatisfaction refers to individuals' unpleasant emotional experiences regarding their bodies, such as dissatisfaction with weight or body shape (Chen, 2006). Research indicates that body dissatisfaction may lead to numerous negative consequences, including depression, reduced well-being, and eating disorders (Laporta-Herrero et al., 2018; Michels & Amenyah, 2017; Morken et al., 2019).

Adolescents are not only the primary users of social networking sites but also a vulnerable population for body dissatisfaction (Tsitsika et al., 2014). As social networking sites continue to evolve and update, the content they provide increasingly meets adolescents' personalized needs. Both boys and girls have similar opportunities to access information related to beauty, fitness, and fashion (Sha et al., 2019). Prolonged exposure to online environments that emphasize appearance ideals leads adolescents to focus more on their own physical appearance and makes them more susceptible to appearance comparisons or internalization of appearance ideals, which may eventually result in body dissatisfaction.

In light of these concerns, scholars have begun to examine the impact of social networking site use on body dissatisfaction among adolescent boys and girls, conducting a series of empirical studies. Despite certain theoretical and empirical achievements, these research findings remain relatively fragmented. Building upon previous studies and incorporating the latest research findings, this paper structurally reviews and summarizes the effects of different dimensions of social networking site use on adolescent body dissatisfaction, further identifies and analyzes three primary pathways of this influence, and explores potential moderating mechanisms. Additionally, this paper points out limitations of existing research and proposes valuable directions for future studies. This work will not only help subsequent researchers quickly and comprehensively grasp the impact of social networking site use on adolescent body dissatisfaction but also provide theoretical guidance and recommendations for improving adolescents' body dissatisfaction and enhancing their mental health and subjective well-being.

2 Manifestations of Social Networking Site Use Influence on Adolescent Body Dissatisfaction

Social networking site use encompasses various activities conducted on these platforms. Broadly speaking, the manifestations of how social networking site use influences adolescent body dissatisfaction can be categorized into four types: degree of use, form of use, specific behaviors, and motivations for use.

2.1 Influence of Social Networking Site Use Degree on Adolescent Body Dissatisfaction

Reviewing existing research, we find that initial studies examining the relationship between social networking site use and body dissatisfaction primarily focused on the degree of use, including duration/frequency and intensity of use. Duration/frequency of social networking site use is typically measured by the amount of time individuals spend on these platforms weekly or daily and their daily usage frequency across different sites. Research has found that adolescent girls who use Facebook report more body surveillance and body shame compared to non-users (Meier & Gray, 2014). Further studies have also identified a positive association between time investment on platforms like Myspace and Twitter and body dissatisfaction (Holland & Tiggemann, 2016). Longitudinal research indicates that adolescents' initial frequency of social networking site use can significantly predict subsequent levels of body dissatisfaction (De Vries et al., 2016). However, some studies have found negative associations (Rutledge et al., 2013) or no association (Ferguson et al., 2014) between social networking site use and body dissatisfaction.

These inconsistent findings may be attributed to the fact that duration or frequency measures are too broad and fail to accurately reflect users' emotional connection to social networking sites. In other words, even when individuals spend the same amount of time on these platforms, their emotional investment

and internet dependency may differ substantially. Therefore, scholars have suggested that examining social networking site use intensity may be more meaningful than simply considering duration or frequency (Verduyn et al., 2017). Social networking site use intensity refers to the degree to which social networks are integrated into individuals' lives and the strength of emotional connection to these networks (Ellison et al., 2007). Existing research has found that Facebook use intensity can positively predict self-objectification levels and body shame (Manago et al., 2015). Other studies have shown a significant positive correlation between social networking site use intensity and adolescent body dissatisfaction, with this finding being equivalent across genders (Jarman et al., 2021). Domestic research has also found that Chinese adolescents' social networking site use intensity is significantly positively correlated with body image dissatisfaction (Wei et al., 2017). These consistent findings indicate that social networking site use intensity has a positive predictive effect on adolescent body dissatisfaction.

2.2 Influence of Social Networking Site Use Form on Adolescent Body Dissatisfaction

Although the above findings support scholars' speculation about the association between social networking site use and adolescent body dissatisfaction, the degree of use only reflects individuals' basic usage patterns and cannot fully reveal the impact of these platforms on body dissatisfaction. Consequently, scholars have deeply investigated how two different forms of social networking site use—active and passive—influence adolescent body dissatisfaction. Active use refers to information-generating behaviors that enhance communication (Verduyn et al., 2015). While some research suggests that active social networking site use has positive effects on self-cognition and psychosocial adaptation (Frison & Eggermont, 2016a), prolonged immersion in information cocoons woven by these platforms may lead to body dissatisfaction among adolescents. For instance, studies have found that active Facebook use is significantly positively correlated with objectified body consciousness and body shame (Manago et al., 2015). Other research indicates that active Instagram use is positively associated with body dissatisfaction (Hendrickse et al., 2017). Additionally, when using social networking sites, individuals inevitably encounter large amounts of information about others' abilities, achievements, and appearance characteristics, especially idealized appearances that have been carefully embellished and beautified. This may lead adolescents to develop negative self-cognitions and feelings of “I'm not as good as others,” thereby increasing the risk of body dissatisfaction (Leahey et al., 2007).

Passive use refers to information-browsing behaviors lacking communication (Verduyn et al., 2015). Its main characteristic is the absence of information exchange and no clear target, thus being vividly called “online lurking” (Pempek et al., 2009). Research has found that individuals' primary activities on social networking sites are not posting personal information but rather infor-

mation retrieval and browsing (Wise et al., 2010), indicating that passive use occupies a larger proportion of time. Studies have shown that passive social networking site use is significantly positively correlated with self-objectification, body shame, and restrictive eating (Zhang & Zeng, 2023). Other research indicates that passive social networking site use significantly positively predicts adolescents' body image disturbance (Zhao et al., 2021). Longitudinal studies have also found that adolescents who favor passive Facebook use are more likely to experience higher levels of body dissatisfaction (Rousseau et al., 2017). These findings suggest that passive social networking site use is a key factor in inducing negative body image among adolescents.

2.3 Influence of Social Networking Site Use Behaviors on Adolescent Body Dissatisfaction

As research has gradually deepened and become more refined, scholars have turned their attention to appearance-related social networking site use behaviors. Indeed, it is these specific behaviors closely related to physical appearance that enable social networking site use to affect individuals' body satisfaction. Current research primarily focuses on two behaviors: body talk on social networking sites and selfie-related behaviors.

Body talk involves interactions among individuals about appearance characteristics, placing focus on physical appearance, highlighting its importance and value, and striving to achieve ideal appearance (Nichter & Vuckovic, 1994). This type of talk is an important risk factor for body dissatisfaction (Mills & Fuller-Tyszkiewicz, 2017). As social networking sites have become important channels for modern communication, body talk has correspondingly gained a broader platform, becoming more pervasive and enduring. Trekels et al. (2018) found that adolescents' body talk with peers on Facebook is positively associated with self-objectification, and this association is consistent across genders. A series of empirical studies by Wang et al. also demonstrate that body talk on social networking sites significantly affects individuals' body image, including body dissatisfaction, objectified body consciousness, attitudes toward cosmetic surgery, and restrictive eating behaviors (Wang et al., 2022; Wang et al., 2023; Wang, Wang et al., 2020; Wang et al., 2021). These findings provide valuable references for understanding how body talk on social networking sites influences adolescent body dissatisfaction and corresponding psychological distress.

Selfies are another common appearance-related social networking site behavior. Based on the participating subject, selfie behaviors can be divided into two categories: viewing selfies and posting selfies. Viewing selfies refers to individuals acting as information recipients who check others' selfie photos on social networking sites. Research shows that viewing selfies is significantly positively correlated with facial dissatisfaction and self-objectification (Wang et al., 2019; Wang, Xie et al., 2021). Experimental studies have also found that after viewing makeup selfies, women experienced decreased facial satisfaction and developed stronger intentions to alter their faces, hair, and skin (Fardouly & Rapee, 2019).

Posting selfies refers to individuals acting as information providers who upload their own selfie photos to social networking sites. Although some studies show that posting selfies is negatively correlated with body dissatisfaction (Chang et al., 2019) or not significantly correlated (Yellowlees et al., 2019), most research findings indicate that posting selfies is positively associated with negative body image (Gu et al., 2021). Additionally, the editing process before posting selfies, such as retouching photos, may also negatively affect individuals' body image. For example, longitudinal research has found that editing selfies positively predicts facial dissatisfaction six months later (Wang, Chu et al., 2021). Experimental studies have also shown that participants who had the opportunity to edit their selfies before posting evaluated their own physical attractiveness more negatively (Mills et al., 2018). Furthermore, feedback received after posting selfies may also affect individuals' body image, such as increasing self-objectification levels (Vendemia & DeAndrea, 2021). In summary, selfie-taking is a continuous process composed of a series of interrelated behaviors, and each stage has the potential to negatively affect individuals' body image.

2.4 Influence of Social Networking Site Use Motivations on Adolescent Body Dissatisfaction

Building upon the analysis of how specific social networking site behaviors affect physical appearance, scholars have recognized that exploring the psychological and social motivations behind these behaviors is equally crucial. This is because individuals' motivations for using social networking sites determine how they experience these platforms and how these experiences further affect their cognitions and feelings. Previous research has identified various motivations for social networking site use, including building interpersonal relationships, obtaining and sharing information, entertainment, reality escape, and seeking appearance feedback (Al-Menayes, 2015; Frison & Eggermont, 2016b). Based on this, numerous studies have examined the association between social networking site use motivations and body image. Jarman et al. (2021) found that motivation to seek appearance feedback is associated with lower body satisfaction, while motivations for sharing information, escaping reality, and entertainment are associated with higher body satisfaction. Rodgers et al. (2021) also showed that social networking site use motivations (including social, fashion concern, appearance concern, value expression, and interest sharing) are all related to appearance ideal internalization, with appearance and fashion concern motivations showing particularly strong associations. Rodgers and Laveway's (2022) theory of development of critical body awareness suggests that adolescents motivated by seeking appearance feedback or appearance enhancement are more likely to participate in appearance-focused social networking site activities, such as browsing thinness or fitness-related content (Prichard et al., 2020) and engaging in online appearance comparisons (Jarman et al., 2021), to evaluate their position within societal appearance standards. However, social networking sites are filled with numerous unrealistic idealized images. When adolescents engage in upward superiority comparisons with these images, they may become more

aware of the gap between themselves and these ideals, thereby triggering body dissatisfaction and negative evaluations (Perloff, 2014).

3 Pathways of Social Networking Site Use Influence on Adolescent Body Dissatisfaction

To further examine how social networking site use affects adolescent body dissatisfaction, researchers have not only conducted numerous studies as described above but also explored the underlying pathways. Broadly speaking, there are three main pathways.

3.1 Appearance Comparison and Ideal Body Internalization

The tripartite influence model, based on sociocultural theory, posits that media, family, and peers are important sources of pressure leading to body dissatisfaction, with social comparison and thin-ideal internalization playing mediating roles (Thompson et al., 1999). Social networking sites possess both media attributes and contain family and peer factors. Compared with traditional media such as television, advertising, and magazines, social networking sites are more popular among young people due to their more comprehensive functions (Bair et al., 2012). Meanwhile, sharing, commenting, and liking activities among social networking site users mostly revolve around acquaintances or peers. The fusion of these three factors provides adolescents with abundant opportunities for appearance comparison, prompting them to internalize “appearance ideals” and evaluate their own appearance according to these perceived norms (Rodgers et al., 2011). Moreover, as an emerging medium, social networking sites carry more diverse sociocultural pressures, such as from celebrities and influencers, whose body appearances are mostly carefully edited and beautified. Long-term exposure to such images may lead adolescents to 偏执地 believe that these represent socially recognized beauty standards and to hold themselves to these strict criteria. When these idealized standards are difficult to achieve, they may trigger dissatisfaction with body appearance and even generate feelings of guilt or shame (Homan, 2010; Zhang & Zhang, 2019).

Previous studies have shown that both the degree of social networking site use and appearance-focused use can affect body dissatisfaction among adolescents and young women by promoting appearance comparison and ideal body internalization (Jarman et al., 2021; Jung et al., 2022; Saiphoo & Vahedi, 2019). Meanwhile, S. R. Roberts et al. (2022) observed the unique contribution of social networking site use in predicting appearance comparison, thin/muscular ideal internalization, and further appearance self-esteem, even after controlling for the effects of three other appearance pressure sources (media, family, and peers). Chinese scholars Wang et al. (2017) and Gu et al. (2021) systematically reviewed the independent mediating roles of appearance comparison or thin-ideal internalization between social networking site use and its specific behaviors and body image. Additionally, numerous scholars have attempted to examine the

parallel mediating roles of appearance comparison and ideal body internalization in integrated models. For example, Rodgers et al.'s (2020) biopsychosocial model found that social networking site use and negative emotions significantly predict thin (muscular) ideal internalization and upward comparison, which in turn affect body dissatisfaction and its consequences, such as restrictive eating and muscle-enhancing behaviors.

3.2 Self-Objectification and Body Surveillance

In objectification research, Bartky (1990) first introduced the concept of sexual objectification, referring to women's bodies, body parts, or sexual functions being separated from their subjectivity, reduced to an instrumental existence, or regarded as representing their entire being. Fredrickson and Roberts (1997) further elaborated in their Objectification Theory that continuous experiences of sexual objectification lead women to view themselves as objects that can be evaluated by appearance, thus prompting women to examine their own bodies from an observer's perspective, resulting in self-objectification. For example, researchers had participants view two groups of female athletes' photos, one group with thin body types and the other with normal body types. Results showed that participants who viewed the thin body type group reported higher levels of self-objectification (Harrison & Fredrickson, 2003). Meanwhile, self-objectification may cause individuals to focus more on "how do I look" rather than "how do I feel." In other words, self-objectification prompts individuals to define their identity and value by appearance, emphasizing the "appearance features" of the body rather than its "capacity attributes." For instance, researchers had participants interpret two groups of vocabulary and found that participants who read objectification-related vocabulary reported higher levels of state self-objectification compared to those who read vocabulary related to reading ability (Roberts & Gettman, 2004).

With the development of online social technology, adolescents frequently encounter photos or videos containing beauty and thinness content on social networking sites, greatly enriching their online sexual objectification experiences but also inadvertently triggering their self-objectification process (Fioravanti et al., 2022). Related studies have found that using social networking sites such as Facebook and Instagram is significantly positively correlated with self-objectification among adolescent boys and girls (Fardouly & Vartanian, 2015; Feltman & Szymanski, 2018). Experimental studies have also shown that brief exposure to objectifying media content increases adolescents' self-objectification levels (Fox et al., 2013). Building on this, Karsay et al. (2018) used meta-analysis to further quantify the effect of media use on self-objectification, finding that the former has a significant positive predictive effect on the latter.

Additionally, individuals with high self-objectification levels tend to engage in body surveillance, that is, frequently and habitually monitoring their own appearance for self-evaluation purposes. However, this body surveillance may trigger a series of negative psychological consequences, such as anxiety, body

shame, or body dissatisfaction. In Moya-Garófano and Moya's (2019) study, 263 young men and women were randomly assigned to either an appearance group or a personality group. The appearance group was tasked with writing about their own appearance, while the personality group was asked to describe personal character traits. Results showed that focusing on appearance increased the frequency of body surveillance among women, which in turn increased body shame.

3.3 Appearance Self-Schema and Appearance Self-Discrepancy

In addition to the tripartite influence model and objectification theory, self-schema theory and self-discrepancy theory provide important theoretical perspectives for understanding how social networking site use affects adolescent body dissatisfaction. Self-schema theory posits that self-schema is a cognitive structure about the self formed by individuals based on past experiences, which guides and organizes self-related information processing (Markus, 1977). Appearance self-schema particularly emphasizes the importance of appearance in individuals' lives and also guides stereotyped, emotional, and excessive attention to appearance-related stimuli (such as weight, body shape, and food). Research has found that individuals with higher levels of appearance self-schema are more likely to feel body dissatisfaction (Baker & Blanchard, 2017). Self-discrepancy theory points out that the discrepancy between appearance-related ideal self and actual self is an important factor leading to appearance management behaviors or emotional adaptation problems (Higgins, 1987). For example, studies have shown that passive social networking site use not only directly affects adolescents' body image disturbance but also indirectly affects it through the mediating role of body image self-discrepancy (Zhao et al., 2021). Experimental studies have also found that young women with high levels of appearance self-discrepancy experience significantly increased body dissatisfaction and body anxiety after brief exposure to thin model photos (Yu & Jung, 2018).

Integrating the perspectives of self-schema theory and self-discrepancy theory, when adolescents encounter appearance ideal information on social networking sites, their appearance self-schema is easily activated, which affects their processing of appearance-related information and makes them more frequently reflect on the discrepancy between their actual self and ideal self, thereby easily triggering dissatisfaction with body appearance. For example, Ahadzadeh et al. (2017) found that adolescents' Instagram use affects their body satisfaction through the chain mediating role of appearance self-schema and appearance self-discrepancy. Building on this, future research could consider combining appearance self-schema and appearance self-discrepancy with body image variables from other theories (such as appearance comparison and self-objectification) to enrich existing theoretical models.

4 Moderating Factors in the Relationship Between Social Networking Site Use and Adolescent Body Dissatisfaction

Researchers have not only focused on the manifestations and pathways of social networking site use influence on adolescent body dissatisfaction but also deeply explored relevant moderating mechanisms. Broadly speaking, these can be divided into three categories: personality moderating factors, including the Big Five personality traits, narcissism, and perfectionism, which mainly involve individual personality characteristics and psychological structures; self-cognitive moderating factors, including self-compassion and self-concept clarity, which mainly involve individuals' inner feelings and self-awareness; and media-cognitive moderating factors, including social media literacy and appearance-related social media consciousness, which mainly involve individuals' habits of using social networking sites and attitudes toward their content. Below, we discuss these three categories of moderating factors respectively.

4.1 Personality Moderating Factors

Personality factors play a role in triggering or protecting against body dissatisfaction. Research has found that within the Big Five personality framework, body dissatisfaction is significantly positively correlated with neuroticism and significantly negatively correlated with extraversion and conscientiousness, while showing no significant correlation with openness and agreeableness (Allen & Robson, 2020). Specifically, neurotic individuals, due to their emotional sensitivity and overreaction to negative feedback, are more likely to internalize appearance ideals or develop self-objectification, thus experiencing higher levels of body dissatisfaction. For example, research has found that compared to women with low neuroticism, those with high neuroticism experience more significant decreases in body self-esteem after viewing idealized images of thin fashion models, while feeling more satisfied with their bodies after viewing images of plus-size models (Roberts & Good, 2010). Another study found that women with high BMI and high neuroticism, due to greater awareness of similarities, exhibit higher body dissatisfaction after exposure to overweight media images (Dalley et al., 2009). Conversely, extraverted individuals, due to their optimistic and positive emotional characteristics, as well as stronger self-confidence and emotional recovery abilities, can effectively neutralize the negative effects of idealized images on body image through positive interactions and positive interpretation of others' feedback during social networking site use.

In addition to Big Five personality traits, narcissism and perfectionism also play unique moderating roles in the relationship between social networking site use and body dissatisfaction. Research shows that narcissistic individuals typically value their appearance and tend to overestimate their attractiveness (Bleske-Rechek et al., 2008). Other studies have found that individuals with narcissistic traits may seek affirmation and admiration through frequent selfies and image display (Wang, Xie et al., 2020). In this process, excessive pursuit of idealized appearance makes them more likely to fall into the trap of self-objectification,

thereby increasing the possibility of body dissatisfaction. Additionally, perfectionism is also significantly correlated with body dissatisfaction (Wojtowicz & Von Ranson, 2012). Perfectionists tend to unconsciously engage in upward comparisons, that is, comparing themselves with “appearance-advantaged groups,” which increases the degree of thin-ideal internalization and makes them more likely to have negative appearance experiences (Yang & Stoeber, 2012). Thus, it is not difficult to see that adolescents with perfectionist traits, during social networking site use, are more inclined to scrutinize their appearance strictly and strive to meet the aesthetic standards prevalent on social media. This internalized perfectionist pursuit is often closely linked to increased restrictive eating and body dissatisfaction (Leng et al., 2020). Overall, although personality traits are important factors affecting the development of adolescents’ body image, relatively few studies have examined this topic. Understanding and attending to how different personality traits moderate the influence of social networking site use on adolescents’ body satisfaction is important for preventing and intervening in adolescent mental and physical health problems, and more research in this area is needed in the future.

4.2 Self-Cognitive Moderating Factors

Self-compassion refers to individuals’ psychological capacity to hold sympathy and compassion for themselves when facing their own shortcomings, failures, or suffering (Neff, 2003). Research shows that self-compassion is significantly negatively correlated with body dissatisfaction and body shame (Ferreira et al., 2013). Intervention studies have also shown that self-compassion can encourage individuals to accept their own imperfections and effectively reduce body surveillance and appearance comparison (Toole & Craighead, 2016). Meanwhile, individuals with high self-compassion can effectively resist the negative effects of self-criticism when facing appearance-related content, thus internalizing thin ideals less frequently. For example, research has shown that female college students with high self-compassion, when editing selfies, will not be limited by narrow aesthetic standards even when discovering defects or flaws in their appearance (Huang et al., 2023). Another study found that individuals with high self-compassion, when participating in body talk on social networking sites, rarely perceive differences between their own and others’ appearance and experience relatively weak body shame (Wang, Wang et al., 2020). Additionally, viewing self-compassion-related content on social networking sites can also alleviate the negative effects of appearance ideals. For example, Slater et al. (2017) used experimental manipulation to examine participants’ body satisfaction and negative emotions under four conditions: viewing fitspiration images, viewing self-compassion quotes (e.g., treating oneself with care, tenderness, and patience), viewing a combination of fitspiration images and self-compassion quotes, and viewing neutral stimuli. Results showed that participants in the combined fitspiration images and self-compassion quotes condition reported the highest levels of body satisfaction, body appreciation, and self-compassion. However, this study only examined the effects of self-compassion quotes within the

“value attribute” category. Whether replacing these quotes with expressions involving “body characteristics,” such as “You are actually not fat” or “Your smile is very charming,” would produce similar results remains unclear and awaits future research.

Self-concept clarity refers to the degree of clarity in individuals’ self-cognition (Campbell et al., 1996). During social networking site use, adolescents often encounter large numbers of carefully selected idealized body images. Adolescents with high self-concept clarity, due to their firm beliefs in their own values and strengths and their ability to keenly identify differences between images displayed on social networking sites and real life, are less likely to use them as a basis for self-evaluation. Conversely, adolescents with low self-concept clarity tend to use external social information for self-evaluation, and this unstable or vague self-awareness makes them more likely to increase self-scrutiny, attention, and worry about their own appearance when browsing these images. For example, research has found that self-concept clarity moderates the relationship between social networking site use intensity and female appearance anxiety, and also affects the relationship between active social networking site use and appearance anxiety (Tian, 2023). Additionally, self-concept clarity can moderate the indirect pathways through which social networking site use affects body dissatisfaction, such as the “appearance comparison and ideal body internalization” pathway. Individuals with low self-concept clarity tend to make negative or threatening interpretations or attributions of social information, making them more susceptible to contrast effects in social comparisons. Related research shows that women with low self-concept clarity are more susceptible to mainstream aesthetic standards, leading to increased appearance comparison and ideal body internalization, thereby increasing the risk of body dissatisfaction (Vartanian & Dey, 2013). Experimental studies have also found that participants with low self-concept clarity, when viewing idealized media images, are more inclined to use others’ appearance as a comparison object, which further exacerbates state body dissatisfaction (Carter & Vartanian, 2022).

4.3 Media-Cognitive Moderating Factors

Media literacy, defined as the ability to critically analyze and evaluate media content and to access and use media accordingly, has been found to have protective effects on multiple mental health outcomes, including body image (McLean et al., 2016). First, social media literacy helps adolescents understand and recognize that images on social media are typically edited and retouched. For example, research has found that when female social media users realize that the idealized appearance images they are viewing (such as other women’s selfies) have undergone significant digital editing, their internalization of thin ideals after viewing decreases (Vendemia & DeAndrea, 2018). Mahon and Hevey’s (2021) focus group study also found that some girls effectively reduced the negative impact of such images on themselves by consciously reminding themselves that images on social media have been processed and edited and lack real-world

reference. Second, social media literacy helps adolescents effectively identify the posting motivations behind social media content, such as marketing intentions. Research has found that young women with high social media literacy, when browsing idealized appearance images on Instagram, tend to question the purpose and authenticity of image sharing. Once they realize these images are posted based on certain marketing strategies, they can effectively avoid their potential negative effects (Evens et al., 2021). Finally, social media literacy helps adolescents dialectically view the accessibility of social media content and actively adjust their social media usage patterns. Research shows that similarity skepticism can moderate the relationships between media exposure, appearance comparison, thin-ideal internalization, and body dissatisfaction (Rodgers et al., 2019). This is because adolescents holding such beliefs can recognize that certain body types in media are unattainable for them, which provides some protection when facing appearance comparison or thin-ideal internalization.

Appearance-related social media consciousness (ASMC) refers to individuals' continuous attention to their image on public platforms after self-presentation on social networking sites and their judgment of their attractiveness in others' eyes (Choukas-Bradley et al., 2019). Research has found that adolescents tend to equate self-worth with appearance attractiveness and monitor whether their bodies meet cultural aesthetic expectations (Nesi et al., 2018). Given the high visibility, quantifiability, publicity, and permanence of social networking sites, many adolescents carefully process photos and thoughtfully craft accompanying text before posting updates; after posting, they guess others' reactions to the photo, even zooming in on the photo multiple times to judge whether it looks good, and choose to hide (visible only to themselves) or delete the update if they find "flaws" in the photo. Previous research shows that the higher individuals' ASMC levels, the higher their self-objectification, body dissatisfaction, and eating problems (Choukas-Bradley et al., 2020). Longitudinal research has found that ASMC can predict higher depression levels one year later, with predictive power exceeding that of social networking site use duration (Maheux et al., 2022). Experimental studies have also shown that compared to participants with low ASMC levels, those with high ASMC levels experienced significantly decreased state body satisfaction after viewing high-attractiveness Douyin character videos (Li, 2023). These findings suggest that individuals with high ASMC levels may be more sensitive to body information on social networking sites and are affected to a greater extent. However, current research on appearance-related social media consciousness is relatively limited, and future studies should pay attention to and deeply explore this construct.

In summary, this paper constructs an integrated model of how social networking site use influences adolescent body dissatisfaction (see Figure 1 [Figure 1: see original paper]) by synthesizing and reviewing previous research. On one hand, based on the tripartite influence model, objectification theory, self-schema theory, and self-discrepancy theory, this paper explores three pathways through which social networking site use affects adolescent body dissatisfaction: appearance comparison and ideal body internalization, self-objectification and body

surveillance, and appearance self-schema and appearance self-discrepancy. On the other hand, from the perspectives of personality, self-cognition, and media cognition, this paper summarizes moderating factors in the relationship between social networking site use and adolescent body dissatisfaction, specifically including the Big Five personality traits, narcissism, perfectionism, self-compassion, self-concept clarity, media literacy, and appearance-related social media consciousness. This model attempts to clarify the pathways and boundary conditions of how social networking sites affect adolescent body dissatisfaction and provides a systematic thinking framework for researchers in this field, with the hope of promoting scientifically grounded online prevention of adolescent body dissatisfaction.

5 Limitations and Future Directions

Although domestic and international research has made considerable progress regarding the influence of social networking site use on adolescent body dissatisfaction, there remains room for improvement and deepening.

5.1 Localization Research on the Relationship Between Social Networking Site Use and Body Dissatisfaction Needs Deepening

Currently, although research on the relationship between social networking site use and body dissatisfaction shows commonalities between Chinese and Western contexts, there are also differences. On one hand, despite the distinct characteristics of Chinese and Western social networking platform ecosystems, the conclusion that social networking site use affects adolescent body satisfaction is quite consistent. On the other hand, because different cultures emphasize different aspects of physical appearance, the effects of social networking site use on various dimensions of body satisfaction also differ. For example, in Western culture, women's attention to physical appearance mainly focuses on weight, body shape, and muscle tone. In recent years, a labeled activity called "Fitspiration" has emerged in Western culture, calling on women not only to pursue thinness but also to develop good lifestyle habits through exercise (Carrotte et al., 2017). Influenced by this trend, many Western women pay more attention to their own muscularity and are more willing to share selfies showing muscles during fitness, which undoubtedly increases the risk of muscle dissatisfaction. In contrast, Chinese women place more emphasis on facial appearance and height, preferring a slender and feminine beauty (Stojcic et al., 2020). When posting selfies, they mainly focus on the face rather than strength. Therefore, does posting selfies affect satisfaction with different body parts differently for Eastern and Western women? Additionally, some Eastern women have also begun to care about their own muscularity, such as pursuing "ab lines" and "peach buttocks." Will Chinese women in the future also be influenced by Western aesthetic preferences and begin to pursue muscular strength, thereby developing muscle dissatisfaction? These questions await further exploration.

5.2 Research Groups, Methods, and Content in the Field Need Broadening and Deepening

Although research on the relationship between social networking site use and adolescent body dissatisfaction is increasing, the depth of research still needs improvement. First, break age barriers and expand research groups. Existing research mainly focuses on middle school and college student populations. In fact, these two groups are equally important for research on social networking site use and its impact on body image. Reports show that mobile internet users aged 10-29 account for as high as 28.4% (China Internet Network Information Center, 2023). This age range coincides with the high-incidence period of body dissatisfaction. Referring to Sawyer et al.'s (2018) definition of the adolescent age range (10-24 years), we believe it is extremely necessary to treat middle school and college students as a whole for investigation. Additionally, future research should consider diverse groups with different occupations, races, social classes, and sexual orientations to enhance understanding of this field.

Second, increase longitudinal research and refine research methods. Current research is mainly cross-sectional and experimental, which is insufficient for revealing the long-term effects of social networking site use. Over time, the relationship between social networking site use and body dissatisfaction may present a dynamic cyclical change. For example, the more appearance-focused content adolescents are exposed to on social networking sites, the more likely they are to be dissatisfied with their bodies; the more dissatisfied they are with their bodies, the stronger their dependence on social networking sites becomes. Future research could employ ecological momentary assessment (EMA) methods, which through continuous assessment at multiple time points, can more accurately and authentically reflect the long-term mechanisms of how media information affects adolescent body image in natural settings close to real life. Additionally, besides appearance-focused content, social networking sites also contain much body-positive content and appearance-unrelated content (Rodgers et al., 2023). How do users' psychological feelings and behavioral intentions manifest when they are simultaneously exposed to these contradictory messages? This remains unknown. Future research could adopt network analysis or big data research paradigms to collect adolescents' real data on social networking platforms, such as social relationship network data and content preference data, which would help reveal the complex associations between different interaction patterns and body dissatisfaction.

Finally, delve into video platforms to enrich research content. Previous research shows that photo-based platforms (such as Instagram and Snapchat) have stronger associations with body dissatisfaction than text-based platforms (such as Twitter and Facebook), while research on video-based platforms (such as TikTok) is still in its infancy (Harriger et al., 2023). Are findings from text- and photo-based platforms applicable to video platforms? For example, the effects of disclaimer tags, the role of likes and comments, etc. Moreover, compared with text- and photo-based platforms, video platforms are more dynamic, imme-

diate, interactive, and time-consuming. Given these characteristics of video platforms, future research should deeply explore whether they increase adolescents' appearance comparisons, affect self-identity, and intensify appearance-related pressure.

5.3 The Theoretical Framework Between Social Networking Site Use and Body Dissatisfaction Needs Validation and Simplification

First, newly integrated theories urgently need empirical testing. To refine understanding of how social networking site use affects adolescent body dissatisfaction, many researchers have integrated existing theories. For example, the previously mentioned theory of development of critical body awareness explains the influence of social networking sites on individuals' body satisfaction from the perspective of idealized and positive body images on these platforms and analyzes the roles of social networking site use motivations, media literacy, and peer feedback in this process. Choukas-Bradley et al.'s (2022) developmental sociocultural framework integrates the tripartite influence model, social comparison theory, and objectification theory with social networking site-related variables, clarifying the role of social networking sites in adolescent girls' body image concerns, depressive symptoms, and eating disorders. Although such integrated models are theoretically feasible, they currently lack direct empirical support. Future research should conduct empirical studies based on these models to validate their effectiveness and further clarify their mechanisms of action.

Second, clear and concise theoretical frameworks need to be proposed. Although current integrated models of the relationship between social networking site use and body satisfaction have comprehensively revealed the processes through which the former affects the latter, these models are undoubtedly overly complex. Some structures may even fall into the trap of circular argumentation between variables, giving them the appearance of "old wine in new bottles." Therefore, future research should systematically review and streamline existing frameworks, eliminating redundant structures to provide a more clear and focused direction for subsequent research.

5.4 Online Intervention Programs for Body Dissatisfaction Need Rapid Development

Currently, numerous intervention measures exist for adolescent body dissatisfaction, including cognitive theory-based intervention methods (Zeng et al., 2021; Pan et al., 2010) and intervention strategies targeting protective factors in adolescent psychological variables (Paxton et al., 2022). However, online intervention measures based on networking platforms remain insufficient and urgently require further research and development. Luo et al. (2021) conducted a six-week online intervention study called Ebody aimed at improving body dissatisfaction and restrictive eating among young women, achieving positive results. However, the applicability of this intervention to male or younger adolescent groups and its long-term effects remain to be further tested. Additionally, although the

mediated process provides adolescents with much social support, timely media “quarantine” is also extremely important. Researchers have examined the effect of social media abstinence on body dissatisfaction and found that during the abstinence period, participants’ body surveillance and body shame significantly decreased (T. A. Roberts et al., 2022). This provides a new perspective for reducing the negative effects of social networking sites. Future research could continue to explore the potential utility of short-term and even long-term social media abstinence measures in alleviating appearance pressure.

Furthermore, we hope future research can explore substantive construction methods for optimizing social networking platforms, offering suggestions for network companies to implement technological innovations to reduce the negative impact of social networking sites on body dissatisfaction from the source. For example, although setting disclaimer tags (reminding users that images may have been edited or are unrealistic) has shown limited effectiveness, certain forms of disclaimers may be effective, such as status verification comments—where someone other than the original poster points out the unreality of the content (Tiggemann & Velissaris, 2020). Future research should examine the actual effectiveness of such disclaimers in alleviating adolescent body dissatisfaction. If proven effective, this measure could not only guide users on how to effectively challenge appearance ideals on social media through comments but also help the public broaden their understanding of beauty and enhance inclusiveness. Additionally, social media companies could attempt to develop optional functions for users, such as hiding like counts, and further examine whether these functions can effectively reduce upward comparisons on social media and thereby improve users’ mental health levels.

In summary, empirical research should mutually promote the development of network technology, jointly committed to improving users’ body satisfaction. We look forward to future research providing scientific guidance to help adolescents break free from the constraints of the virtual world constructed by social media and network technology, shaping healthy self-cognition through rational and autonomous self-presentation. In the wave of new media updates and diversified aesthetics, we hope to achieve the ideal of “appreciating one’s own beauty, appreciating others’ beauty, sharing beauty together, and creating a harmonious world.”

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Note: Figure translations are in progress. See original paper for figures.

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