The effects of social media content on the use of beautifying photo applications among Chinese young adults

Yan Wang, Xizhu Xiao, Hanxiao Kong & Justin Lau

Published online: 20 Jan 2025.

Submit your article to this journal ↗

Article views: 1330

View related articles ↗

View Crossmark data ↗

Citing articles: 1 View citing articles ↗

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=hajc20

Routledge
Taylor & Francis Group

🔓 OPEN ACCESS ⬤ Check for updates

The effects of social media content on the use of beautifying photo applications among Chinese young adults

Yan Wang[a]*, Xizhu Xiao[b], Hanxiao Kong[c]*, and Justin Lau[d,e]

[a]School of Communication, Hong Kong Baptist University, Kowloon, Hong Kong, China; [b]School of Literature, Journalism and Communication, Qingdao University, Shandong, China; [c]Department of Chinese History and Culture, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China; [d]Department of Design and Architecture, Technological and Higher Education Institute of Hong Kong, Hong Kong, China; [e]Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Kowloon, Hong Kong, China

ABSTRACT

Drawing upon the objectification theory, this study explores the associations between idealized exposure on social media and self-objectification through favorable attitudes toward the ideal body and the associations between self-objectification, self-surveillance, and the use of beautifying photo applications among a Chinese sample. We administered an online cross-sectional survey with 409 Chinese respondents and used structural equation modeling to test the hypotheses. There are several notable insights. First, we found that idealized exposure on social media was significantly associated with favorable attitudes toward ideal body images. Second, changes in attitudes toward the ideal body are positively associated with individuals' self-objectification, which positively affects the usage of beautifying photo applications as well as self-surveillance. In other words, beautifying photo applications is a significant contribution to the objectification literature in understanding new ways that individuals are subjected to conforming to societal standards of attractiveness. Several research gaps are identified, and recommendations for future research are discussed.

Introduction

The pervasive utilization of photo editing applications has emerged as a fundamental aspect of self-expression and persona refinement in the contemporary digital era. China has witnessed a notable surge in the adoption of beauty-enhancement applications, which serve as integral tools for enhancing images in the digital realm (Luo & Zhang, 2024). The appeal of instant filters, editing tools, and augmented reality features has transformed the way young adults present themselves on social media (Agrawal & Agrawal, 2021).

Objectification theory is a primary theoretical framework in research on the pursuit of idealized bodily images (Fredrickson & Roberts, 1997). This theory asserts that exposure to sexually objectified content can lead individuals to internalize idealized standards of beauty and strive to embody the visually 'desired body images' through imitative behaviors. The consequence of self-objectification is characterized by self-surveillance activities, such as dietary alterations, exercise regimens, and even surgical interventions aimed at conforming to predefined bodily ideals. Given that beautifying photo

applications offer a convenient way to present idealized body images, it is likely that individuals may increasingly rely on these online tools, either as a supplement to or a replacement for traditional offline body surveillance practices.

While prior research has explored the dynamics of self-objectification within mass media (e.g., Q. Huang et al., 2020), investigations regarding this phenomenon within the context of social media in China are less prevalent. Although China boasts the world's largest social media market, with over one billion users by 2024 (Statista, 2024a), the specific ways in which Chinese social media users, especially young adults, experience and navigate self-objectification have not been explored. In 2024, Chinese Internet users were reported to spend an average of 29 hours per week online, equivalent to around four hours daily (Statista, 2024b). This extensive online engagement holds particular significance for identity development (Wängqvist & Frisén, 2016), making individuals more vulnerable to the influences of social media on body image and self-perception.

Social media platforms are highly visual and encourage the sharing of images and videos that often portray idealized and edited appearances (Vendemia & DeAndrea, 2018). Its visual-centric nature led users to engage in constant comparison with others (Yue & Tang, 2024), thereby fostering self-objectification (Perloff, 2014; Tiggemann & Slater, 2014). Furthermore, social media's feedback mechanisms, including likes, comments, and shares, reinforce the importance of physical appearance by rewarding individuals for conforming to ideal beauty standards (Dumas et al., 2020; Vendemia & DeAndrea, 2021).

In the Chinese context, prevalent ideal beauty frequently emphasizes attributes such as flawless skin, slender bodies, and large eyes (Yue & Tang, 2024). Moreover, social dynamics in China, particularly the concept of 'face' (mianzi; L. Zhu et al., 2024), play a crucial role in how young adults perceive and present themselves (Chen, 2018). These beauty ideals and social expectations generate a unique environment that requires an examination of self-objectification mechanisms within this context.

Furthermore, considering that self-objectification can perpetuate harmful stereotypes and reinforce narrow definitions of beauty (Fredrickson & Roberts, 1997), it may also lead to discrimination based on appearance, negatively affecting social interactions and professional opportunities (McKinley & Hyde, 1996; Zahara & Farlina, 2023). Thus, exploring this phenomenon is essential for addressing broader societal issues related to mental health and well-being (Garcia et al., 2022).

This study adopts objectification theory as a guiding theoretical lens (Fredrickson & Roberts, 1997) to broaden the focus on social media circumstances and the use of beautifying applications. Specifically, we introduce idealized exposure on social media and favorable attitudes toward ideal body images as factors influencing self-objectification, and we examine the effect of self-objectification on two behavioral outcomes: self-surveillance and the use of beautifying photo applications.

This study contributes to the advancement of objectification theory in two significant ways. Firstly, it moves beyond the traditional focus on mass media's influence on offline body surveillance behaviors (such as diet and exercise) to examine the impact of social media on individuals' online photo editing practices. This expansion of objectification theory sheds light on the online outcomes of self-objectification within social media environments. Secondly, this study aims to uncover the mediating role of self-objectification in understanding the relationship between exposure to idealized images on social media and self-surveillance within China's unique sociocultural landscape. By exploring the mechanism, this study extends the applicability of self-objectification theory to an Eastern study context.

Literature review

Media effects on self-objectification

As posited by Fredrickson and Roberts (1997), objectification theory elucidates the impact of media portrayals of sexual objectification on individuals' self-objectification. This theory

emphasizes that by emphasizing physical appearance over intrinsic qualities such as intelligence or strength, individuals are prompted to view their bodies as objects, a phenomenon known as self-objectification (Lamp et al., 2019). Self-objectification involves internalizing societal beauty standards, leading individuals to assess their attractiveness based on external characteristics like body shape and skin complexion (e.g., white, young, and thin), despite the near impossibility of attaining these idealized bodies for most individuals (Fredrickson & Roberts, 1997).

A substantial body of research underscores the pivotal role of mass media in shaping self-objectification tendencies through the dissemination of idealized images and sexually objectified content. For instance, Morry and Staska (2001) found a significant influence of fitness magazines on male participants' favorable attitudes toward ideal body appearances. Similarly, Brown et al. (2006) conducted longitudinal analyses revealing a connection between early exposure to pornographic material and shifts in attitude among female participants toward favoring a sexually appealing body image as a marker of attractiveness. Q. Huang et al. (2020) identified a link between media exposure, particularly to thin-ideal images, and the development of self-objectification across various demographic groups.

Although mass media remains prevalent, the rising ubiquity of social media platforms warrants an examination of their impact on self-objectification and body image concerns. Like mass media, social media often emphasizes appearance since users typically post photos that present them in an attractive light (Fioravanti et al., 2022). Besides, social media provides individuals with platforms (Subrahmanyam & Smahel, 2011) to access extensive information related to sexual objectification (Ybarra & Mitchell, 2005). For example, Facebook users may encounter sexualized content that advocates ideal appearance and lifestyle choices (Davis, 2018). Given the repeated presentation of sexually objectified content on social media, Manago et al. (2008) assert that individuals are influenced to distort the standards to which one should aspire. Specifically, when individuals compare themselves to attractive ideal images on social media (Kim & Chock, 2015), they are inclined to internalize these perceptions, leading them to view themselves through the lens of idealized images propagated by social media, thereby perpetuating unrealistic beauty expectations (Holland & Tiggemann, 2016). Thus, it stands to reason that social media may have effects comparable to those of mass media in fostering self-objectification.

Recent studies have explored the relationship between social media content and self-objectification, highlighting how exposure to idealized images can influence individuals' perception of sexiness and beauty (Davis, 2018; Rousseau, 2024) or the desire for body modification (Ferdousi et al., 2023). A systematic review by Holland and Tiggemann (2016) demonstrated that social media use is associated with increased body image concerns, including body dissatisfaction and disordered eating, in both females and males. Additionally, Haines et al. (2008) found that the internalization of ideal body images acts as a mediator in the relationship between media exposure and self-objectification, highlighting the impact of social media content on individuals' beauty perceptions.

However, current literature predominantly focuses on the effects of Western social media (e.g., Instagram, Facebook, Snapchat, Tinder) on body image concerns (e.g., Cha et al., 2022). Few studies investigated the negative influence of media from the Asian context on body image (Guo et al., 2022; Jackson et al., 2016, 2020). This gap may be attributed to the fact that the Internet in China was not fully developed 10–20 years ago, and Chinese users typically engage with local social media (e.g., WeChat and Weibo) rather than Western ones (e.g., Google, Facebook, and Twitter), which diminishes the comparability with research conducted in other countries (Guo et al., 2022). Addressing these research gaps, this study predicts that social media can cultivate and reinforce objectification practices in Eastern culture, particularly in China. The following hypotheses are proposed:

H1: Idealized exposure on social media is positively associated with favorable attitudes toward the ideal body among Chinese.

H2: Favorable attitudes toward the ideal body are positively associated with self-objectification among Chinese.

H3: Favorable attitudes mediate the relationship between idealized exposure on social media and self-objectification.

Self-objectification and its consequences

Drawing upon the objectification theory proposed by Vandenbosch and Eggermont (2012), numerous studies have demonstrated a relationship between the internalization of beauty standards and the practice of body surveillance (e.g., Moradi et al., 2005; Velez et al., 2015). Body surveillance encompasses both cognitive and behavioral dimensions (Calogero, 2012; Vandenbosch & Eggermont, 2012). Cognitive body surveillance refers to the mental construction of body image concepts, whereas behavioral body surveillance includes activities such as dieting, physical exercising, cosmetic surgeries, and potentially harmful eating disorders (Calogero, 2012).

The rise of social media platforms has significantly reshaped the social landscape transforming the ordinary lives of individuals into novel arenas of social exposure and interaction (Vivienne & Burgess, 2013). Social media facilitates user-generated content, allows for user modifications, and enables sexualized peers to garner social feedback – elements that are less prevalent in traditional mass media. Given these social media affordances (e.g., Fox & McEwan, 2017), individuals can compare themselves to influencers or peers with slender physiques, often leading to dissatisfaction with their own appearance and attempts to change it (Chae, 2017). Beautifying applications offer an efficient and accessible way for individuals to digitally modify and refine their photos. By utilizing filters such as eye enhancements, blemish removal, and facial slimming (Chae, 2017), these applications enable individuals to project images that align with societal beauty ideals (Zhang, 2024). Since editing photos often prioritizes outward appearance over inner emotions, individuals may view their bodies as objects devoid of human qualities (Loughnan et al., 2017). Given that traditional forms of body surveillance, like eating disorders and cosmetic surgeries, require much effort and can cause mental trauma (Wever et al., 2020), this study argues that the adoption of beautifying applications represents a form of self-objectification, supplementing or even replacing conventional self-monitoring practices to achieve desired aesthetic standards.

Cross-cultural variations in ideal body image concerns necessitate an exploration of the specific study context. In contemporary China, consumer culture associates physical perfection with esteemed cultural standards (Dittmar, 2007). This cultural emphasis on physical beauty is reinforced by the prevailing notion that 'beauty is currency,' prompting a surge in beauty practices to conform to cultural ideals (Calogero et al., 2017). A study (Wen, 2009) involving nearly 3500 respondents across 10 Chinese cities found that physical appearance was identified as one of the four most frequently reported sources of discrimination, alongside gender, registered residence, and height. Common concerns regarding physical appearance among the Chinese population include the desire for big eyes, a pointed chin, and an oval face (Jackson & Chen, 2015; Wen, 2013). As the demand for appearance enhancement rises in China (Luo & Zhang, 2024), the market for photo editing software, serving as a tool for realizing beauty ideals, has gained significant attention. In 2023, the global photo editing application market was valued at USD 318.2 Million (Research, Verified Market, 2024). With China commanding a 30% market share (InsightRonics, 2024). Therefore, considering these beautifying tools within the Chinese market is merited.

Research on the potential relationship between self-objectification and the utilization of photo editing applications is limited. Scholars have observed that self-objectification may drive individuals to

enhance their physical appearance to gain approval from others (S. Chen et al., 2022). Besides, individuals who exhibit greater concern for their appearance are more likely to use beautifying photo applications (Chua & Chang, 2016; Ellison et al., 2006). Many individuals, especially girls, perceive the editing of selfies as an essential procedure in achieving their desired self-image on social media, aiming to make a favorable impression on others (McLean et al., 2019). Combining insights from objectification theory and previous literature, this study proposes that self-objectification is positively associated with offline body surveillance and online beautification applications.

H4: Self-objectification is positively related to (a) self-surveillance and (b) the use of beautifying photo applications.

Consequently, we propose this hypothetical model (See Figure 1).

Method

Sampling

We conducted an online survey with 409 young Chinese adults (79% female, *n* = 261) with an average of 24 years old (*SD* = 5.82) at a university in China. Convenience sampling was conducted by distributing announcements of volunteer recruitment on offline advertising boards. Respondents were selected based on three criteria: they had to be Chinese, aged 18 or above, and have used beautifying photo applications were eligible to participate. If participants believe they meet the criteria, they can scan the QR code displayed on the announcements to access the online page where they will complete the questionnaire and provide their demographic information. The Research Ethics Committee of the researcher's university approved the research procedure and questionnaire.

Measurements

Idealized Exposure on Social Media
Five items assessed how frequently the respondents were exposed on social media content about ideal body images, including individuals who are (a) sexy, (b) with white skin tone, (c) skinny, (d) with sharp facial features, and (e) good at making up are attractive (Moradi et al., 2005). Responses were recorded on a 7-point scale from 1 = never to 7 = every time. The five items were averaged to create a scale for *idealized exposure on social media (M = 4.38, SD = 1.34, α = .92)*.

Favorable Attitude Toward Ideal Body Images
Thompson et al. (2004) introduced the scale to measure sociocultural attitudes toward appearance on traditional media (i.e., TV, magazines, and movies), and the scale received relatively high reliability. We adapted from the scale and asked the respondents to measure
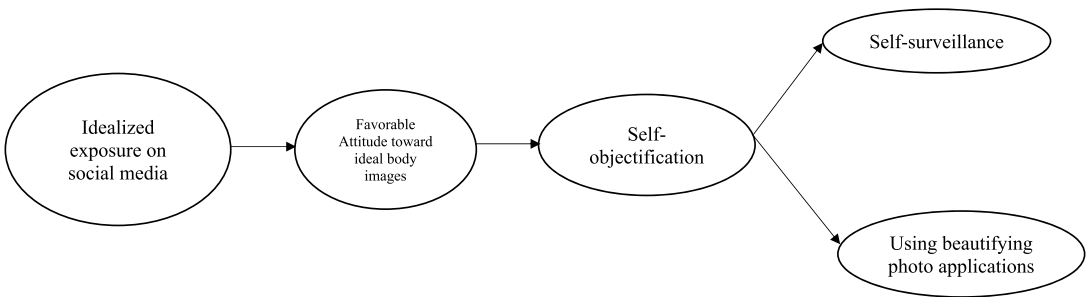

Figure 1. A proposed study model.

their favorable attitudes toward the ideal body on social media using items including 'social media is an important source of information about fashion and being attractive,' 'I've felt pressure from social media to lose weight,' 'I would like my body to look like the people who are on social media' and 'I compare my body to the bodies of social media.' The responses were recorded on a 7-point scale from 1 = strongly disagree to 7 = strongly agree. The four items were averaged into a scale for favorable attitude toward the ideal body *(M = 3.07, SD = 0.90, α = .89)*.

Self-Objectification

Adapted from previous research about self-objectification (Alleva & Tylka, 2021; Dieker et al., 2023; Noll & Fredrickson, 1998), we asked the respondents to rank ten body attributes from most important (rank = 1) to least important (rank = 10). The body attributes are listed: five beauty traits obtained from the content analysis (skin type, facial features, body shape, skin color, and make-up) and five competence-based items (physical coordination, stamina, health, physical fitness, and physical energy level). Scores were calculated by summing the appearance and ability attributes separately, then subtracting the sum of ability rankings from appearance rankings. The difference scores ranged from − 25 to 25, with higher scores reflecting greater self-objectification ($M = -6.58$, $SD = -16.30$).

Self-Surveillance

Adapted from the Body Surveillance subscale of the Objectified Body Consciousness Scales (McKinley & Hyde, 1996), respondents' body surveillance was measured with five items related to dieting, exercising, making up, dressing up, and facial treatment. These items indicated an individual's efforts toward achieving a more attractive appearance. Responses were recorded on a 7-point scale from 1 = strongly disagree to 7 = strongly agree ($M = 4.37$, $SD = 1.41$, α = .82).

Overall Frequencies of Using Beautifying Photo Applications

We asked the respondents to report the frequency of their use of four beautifying photo applications when taking photos (1 = never to 7 = every time). Qimai (https://qimai.cn/) is a repository of download data for Chinese mobile applications (Luo & Zhang, 2024). It identified the four most popular applications – Meitu, Qingyan, B612, and VSCO – based on download statistics and user counts in mainland China. Meitu, a prominent Chinese beauty application, has over 1 billion users across 39 countries (Luo, 2020). QuestMobile (2021, 2022) reported that Meitu is the primary player in the realm of photo editing applications in China, maintaining a large user base (D. Zhu & Huang, 2024). Other beautifying applications like Qingyan, B612, and VSCO have also evolved to meet consumer demands for enhanced image-editing capabilities (Liang, 2024; Luo & Zhang, 2024; Tao & Lin, 2022). All these applications offer instantaneous cosmetic enhancements, including skin refinement, eye brightening, teeth whitening, and body size alteration. We averaged the four items to measure the use of beautifying photo applications ($M = 2.15$, $SD = 1.18$, α = .74), with higher scores indicating more frequent usage.

Control Variables

Age and gender were controlled variables. Given the potential correlation between social media usage frequency, social media exposure, and using photo editing software, social media use frequency was controlled to mitigate potential interference with the results (Nesi & Prinstein, 2015; Shensa et al., 2017). This approach helps isolate the specific impact of exposure to idealized images on self-objectification, ensuring the results more accurately reflect this relationship without being confounded by varying levels of social media usage. To measure social media use frequency, we asked respondents how frequently they used the past six months (a) Weibo, (b) WeChat, (c) TikTok per week from 1 = never to 7 = extremely frequent ($M = 3.07$, $SD = 0.90$, α = .66).
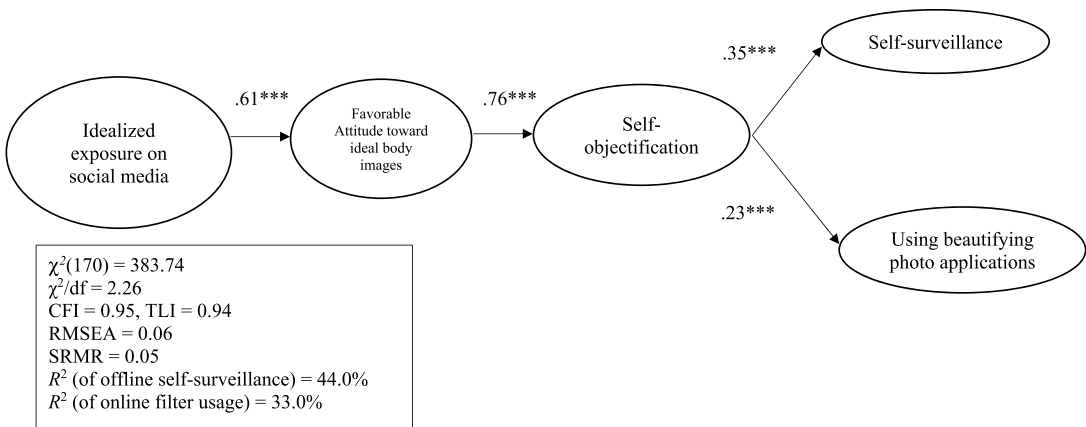
χ²(170) = 383.74
χ²/df = 2.26
CFI = 0.95, TLI = 0.94
RMSEA = 0.06
SRMR = 0.05
R^2 (of offline self-surveillance) = 44.0%
R^2 (of online filter usage) = 33.0%

Figure 2. Results of a proposed model. Note. *$p < .05$, **$p < .01$, ***$p < .001$

Table 1. Pearson correlations among all study variables ($N = 409$).

	IE	FA	SO	SS	BPAU
IE	-				
FA	.54***	-			
SO	.096	.15**	-		
SS	.34***	.40***	.18***	-	
BPAU	.29***	.29***	.26***	.41***	-

Notes. **$p < .01$, ***$p < .001$. IE = Idealized exposure on social media; SO = Self-objectification; SS = Self-surveillance; FA = Favorable attitude toward ideal body images; BPAU = Beautifying photo applications usage.

Procedure

Data were analyzed utilizing SPSS version 22. We ran bivariate correlations among all relationships. The conceptual model shown in Figure 2 was proposed based on the results of the correlation test. After that, the Structural Equation Modeling (SEM) method and AMOS program version 22 were used to test the proposed model and hypotheses.

Before structural modeling, composite reliability (CR) and average variance extracted (AVE) of study constructs were used to assess the reliability and convergent validity of study constructs. Most CR statistics exceeded the cutoff criteria of 0.70, and AVE statistics were generally higher than the recommended cutoff of 0.50, indicating acceptable convergent validity and reliability for all constructs (Fornell & Larcker, 1981; Nunnally, 1978). This study also conducted confirmatory factor analysis (CFA) to check the obtained data with the maximum likelihood mean adjusted (MLM) estimator. The CFA results showed an acceptable level of model fit ($n = 409$): χ^2 (113) = 209.746, χ^2/df = 1.86, CFI = 0.97, TLI = 0.97, RMSEA = 0.046, SRMR = 0.037. The factor loadings ranged from 0.57 to 0.89. The correlations among all variables are listed in Table 1.

Results

H1 postulated that idealized exposure on social media was positively associated with a favorable attitude toward the ideal body. The results of the analysis indicated that education was significantly positively associated with a favorable attitude toward the ideal body ($\beta = .61, p < .001$). Thus, H1 was supported. H2 proposed that favorable attitudes toward the ideal body are positively associated with self-objectification. The results showed that attitudes, in turn, were significantly positively associated with an individual's self-objectification ($\beta = .76, p < .001$). Thus, H2 was supported. H3 postulated that attitudes act as a mediating variable. We first investigated the indirect and direct association to test the

mediation effect. The results indicated that both the direct effect from idealized exposure on social media to self-surveillance ($\beta = .07$, $p = .301$) and using beautifying photo applications ($\beta = .07$, $p = .327$) were not significant. Interestingly, the total indirect effect from idealized exposure on social media to self-surveillance ($\beta = .19$, $p < .001$) and using beautifying photo applications ($\beta = .13$, $p < .01$) were significant. Therefore, the favorable attitude and self-objectification significantly fully mediated the process from idealized exposure on social media to self-surveillance and using beautifying photo applications. H4 postulated that self-objectification is positively related to (a) self-surveillance and (b) using beautifying photo applications. The analysis results indicated that individual's self-objectification was significantly positively associated with using beautifying photo applications ($\beta = .35$, $p < .001$, $R^2 = 0.44$) as well as self-surveillance ($\beta = .23$, $p < .001$, $R^2 = 0.33$).

Last, we assessed the hypothesized model using structural equation modeling (SEM) with the MLM estimator to test the fully mediated effects. The results showed an acceptable level of model fit ($n = 409$): $\chi^2(170) = 383.74$, $\chi^2/df = 2.26$, CFI = 0.95, TLI = 0.94, RMSEA = 0.06, SRMR = 0.05 (see Figure 2).

Discussion

Drawing on the literature about social media and objectification theory, our study examined the role of favorable attitudes toward ideal body images and how idealized exposure on social media influences self-objectification. First, idealized exposure on social media is positively associated with a favorable attitude toward the ideal body, emphasizing the media as a source of ideal images. The result aligned with prior research (Fardouly et al., 2015; Perloff, 2014) that found social media exposure significantly influences young adults' perception of identity and self-awareness. Several reasons may explain the positive effects observed in the results. First, cultivation theory (Gerbner & Gross, 2017) posits that repeated exposure to societal body ideals on social media shapes individuals' perceptions by normalizing these ideals and fostering a preference for aligning one's body with this perceived norm (Stein et al., 2021). Unlike previous studies that likened mass media to an instructive platform guiding individuals on how to conform their appearances to prevailing standards (Bourdieu, 1984; Goodyear & Armour, 2019; Tinning, 2010; Vandenbosch & Eggermont, 2012). This study diverges by emphasizing that social media does not impose values as definitively as formal educational settings, such as schools. Instead, individuals shape their attitudes toward body image based on their personal perceptions and beliefs through social media exposure. Second, social cognitive theory (Bandura, 1986) suggests this association by positing that the reinforcement of sexual objectification in media content educates individuals about the potential advantages of embracing a sexually objectifying perspective toward their own bodies (Vandenbosch & Eggermont, 2012). Influenced by content perceived as popular or successful (e.g., receiving likes and comments) within the social media environment, individuals may conform to the idealized body image depicted on these platforms, even when such images are heavily manipulated or enhanced, thereby fostering a favorable attitude toward the ideal body. Third, social comparison theory (Festinger, 1957) provides further insight into this positive association. When individuals compare themselves to others' idealized images on social media, it may stimulate self-reflection and comparison, inspiring positive changes in their attitudes toward ideal body images.

Moreover, the results indicate that favorable attitudes toward ideal body images mediate the association between idealized exposure on social media and self-objectification. Social media inundates users with meticulously curated photos and videos showcasing seemingly ideal body images. This unrealistic presentation leads individuals to associate success, attractiveness, and other positive attributes with specific body images, fostering favorable attitudes toward these ideal body images. Consequently, individuals may excessively attach their self-worth to external appearances, exacerbating self-objectification tendencies.

Furthermore, the objectification theory was supported in this study by confirming that self-objectification is positively associated with body surveillance. It aligns with Moradi and Huang's

(2008) overview of objectification theory. The results highlight that individuals who internalize beauty standards experience a significant compulsion to conform to these ideals (Piccoli et al., 2022) and reveal the complex nature of self-objectification as a multifaceted process involving the internalization of beauty ideals (attitudes), self-objectification, and body surveillance (Moradi, 2010; Vandenbosch & Eggermont, 2012).

A worth-noting result is that the utilization of beautifying photo applications is an online behavioral outcome of self-objectification. The result echoes Chua and Chang's (2016) research that indicated individuals are inclined to engage in image editing and posting practices to conform to peer-defined beauty standards. This new behavioral outcome may be attributed to cultural factors. In this study context, social comparison is consistent with the predominant cultural values of China as a collectivistic society. Specifically, the cultural orientation that values social comparison in conforming to group norms may amplify the influence of appearance-related content from peers. This emphasis on collective identity can exacerbate individuals' tendencies to internalize idealized beauty standards and engage in self-objectification behaviors (Dittmar & Howard, 2004; Wollast et al., 2021).

In addition to considering these cultural explanations, the consequence of this online practice needs attention. According to Elias and Gill (2017), users of beautifying photo applications present their bodies and faces in ways that commodify and monetize their appearances through social media platforms (Jin & Feenberg, 2015). This practice may perpetuate unrealistic beauty standards by normalizing digitally altered appearances as the perceived standard of beauty. As users strive to attain these enhanced and often unattainable ideals, they may experience heightened dissatisfaction with their natural appearance (Szymanski & Henning, 2007) and diminished self-esteem (Fox et al., 2021). Besides, this practice fosters a culture of social comparison, pressuring individuals to measure up to digitally enhanced beauty standards showcased on social media. As a result, it becomes increasingly difficult for them to post pictures without beautifying photo applications, fueling feelings of anxiety and self-doubt (Holland & Tiggemann, 2016; Sharma, 2024). Last, this practice may lead to the exploitation of individuals for profit, as the beauty industry capitalizes on insecurities and societal pressures to sell products or services that promise to enhance physical appearances (Foysal, 2024; Setter, 2021). This exploitation can further fuel unattainable beauty standards and contribute to the objectification of individuals.

Implications

Theoretically, this study enhances the potential of objectification theory within the context of social media, suggesting that these platforms advance objectification practice. Second, this study introduces a new outcome variable within the framework of objectification theory, expanding its applicability to the digital field. By contrasting high-risk body surveillance methods, such as cosmetic surgery (Comiskey et al., 2020), this study highlights beauty applications as low-risk alternatives to help individuals navigate self-perceived flaws while adhering to societal beauty norms. This underscores that self-objectification can manifest both online and offline, enriching the discourse surrounding objectification theory. Last, this study validates objectification theory in the Chinese context, addressing a notable gap in the existing literature that predominantly focused on samples from the United States and Australia (Moradi & Huang, 2008). This study underscores the universality of self-objectification across genders by exploring the experiences of women and men within China's social media landscape.

Practically, to mitigate body surveillance tendencies, social media can promote a more realistic portrayal of body types by featuring diverse representations and providing educational resources that expose the artificial nature of ideal bodies. By encouraging individuals to focus less on unattainable beauty standards, social media has the potential to foster healthier body image perceptions among users. Additionally, future educational and preventive programs should target the root causes of self-

objectification – internalized beauty standards. Education interventions should aim to reduce individuals' internalization of unrealistic beauty ideals and promote a more positive body image and mental well-being, thereby mitigating the harmful effects of perpetuating these beauty ideals.

Limitations and future studies

There are inevitably some limitations we would like to claim. First, self-report surveys inherently limit the ability to disentangle causal pathways, as variables are assessed at a single time point. Establishing a dominant causal direction would benefit from experimental or longitudinal methods. Additionally, using computer tracking to obtain more accurate data on application usage is encouraged.

Moreover, data were collected from a single college in mainland China, which may not be representative of the broader population. The lack of research on beautifying photo applications used by overseas users, such as those on Facebook and Instagram, also limits the generalizability of our findings. For instance, Manago et al. (2014) conducted a six-year study on American college students and found that increased participation on Facebook correlated with heightened physical awareness and opportunities for physical humiliation perception, regardless of gender. Many young adults are victims of social media influences. Since self-objectification evolved (Fredrickson & Roberts, 1997), idealized exposure on social media and self-objectification of children and older adults deserve equal attention.

In addition to age, there are solid suggestions for future research focusing on other demographic variables, such as marital status, sexual orientation, ethnicity, and disability. For example, what differences exist in attitudes toward the ideal body among unmarried, pregnant, and fertile women? What are the consequences for LGBT individuals in self-objectification? Different demographic groups may provide different perspectives. Furthermore, the influence of idealized exposure on social media for individuals with disabilities and their attitudes toward ideal body images remains poorly understood. Therefore, we suggest that researchers be more cautious when collecting demographics to test the generality of objectification theories.

Different media types may also impact body image differently (Bissell & Zhou, 2004). For example, individuals may play various roles when engaging with gaming content, which could influence their favorable attitudes toward the ideal body. The effects of non-explicit media, such as documentaries and news, may also differ. Therefore, future research is encouraged to explore the impact of different media content.

Finally, the widespread use of beautifying photo applications has led to the emergence of numerous photo filters, providing users with an easy and fun way to refine their photos. Given the diversity of these applications, future research should investigate the effects of self-objectification when applying different types of filters to photographs.

Conclusion

This study examines the relationship between idealized exposure on social media and self-objectification, revealing a mediation effect of a favorable attitude toward the ideal body. The results indicate that social media heavily influences self-objectification. Furthermore, individuals experiencing self-objectification may turn to beautifying photo applications, as these tools offer a convenient way to achieve idealized appearances, going beyond traditional self-surveillance practices like weight loss and dieting. This comprehensive examination of various variables within the objectification theory framework offers valuable insights into how social media impacts the attitudes and behaviors of young Chinese individuals, thus contributing to the literature on self-objectification from a non-Western perspective. We encourage future studies to explore the potential application of this theoretical framework with new outcome variables in different cultural contexts and among diverse populations.

Disclosure statement

No potential conflict of interest was reported by the author(s).

References

Agrawal, H., & Agrawal, S. (2021). Impact of social media and photo-editing practice on seeking cosmetic dermatology care. Clinical, Cosmetic and Investigational Dermatology, 14, 1377–1385. https://doi.org/10.2147/CCID.S322859

Alleva, J. M., & Tylka, T. L. (2021). Body functionality: A review of the literature. Body Image, 36, 149–171. https://doi.org/10.1016/j.bodyim.2020.11.006

Bandura, A. (1986). Social foundations of thought and action : A social cognitive theory. Prentice-Hall.

Bissell, K. L., & Zhou, P. (2004). Must-see TV or ESPN: Entertainment and sports media exposure and body-image distortion in college women. Journal of Communication, 54(1), 5–21. https://doi.org/10.1111/j.1460-2466.2004.tb02610.x

Bourdieu, P. (1984). Distinction: A social critique of the judgement of taste. Harvard University Press.

Brown, J. D., L'Engle, K. L., Pardun, C. J., Guo, G., Kenneavy, K., & Jackson, C. (2006). Sexy media matter: Exposure to sexual content in music, movies, television, and magazines predicts Black and White adolescents' sexual behavior. Pediatrics, 117(4), 1018–1027. https://doi.org/10.1542/peds.2005-1406

Calogero, R. M. (2012). Objectification theory, self-objectification, and body image. In T. F. Cash (Ed.), Encyclopedia of Body image and human appearance (pp. 574–580). Academic Press.

Calogero, R. M., Tylka, T. L., Donnelly, L. C., McGetrick, A., & Leger, A. M. (2017). Trappings of femininity: A test of the "beauty as currency" hypothesis in shaping college women's gender activism. Body Image, 21, 66–70. https://doi.org/10.1016/j.bodyim.2017.02.008

Cha, H. S., Mayers, J. A., & Stutts, L. A. (2022). The impact of curvy fitspiration and fitspiration on body dissatisfaction, negative mood, and weight bias in women. Stigma and Health, 7(2), 226. https://doi.org/10.1037/sah0000367

Chae, J. (2017). Virtual makeover: Selfie-taking and social media use increase selfie-editing frequency through social comparison. Computers in Human Behavior, 66, 370–376. https://doi.org/10.1016/j.chb.2016.10.007

Chen, S. (2018). Face, Social Ties and Positive Energy: an analysis of young Chinese WeChat users' reflections on mediated social relations [(Doctoral dissertation]. University of Leicester). https://hdl.handle.net/2381/42847

Chen, S., van Tilburg, W. A., & Leman, P. J. (2022). Self-objectification in women predicts approval motivation in online self-presentation. British Journal of Social Psychology, 61(1), 366–388. https://doi.org/10.1111/bjso.12485

Chua, T. H. H., & Chang, L. (2016). Follow me and like my beautiful selfies: Singapore teenage girls' engagement in self-presentation and peer comparison on social media. Computers in Human Behavior, 55, 190–197. https://doi.org/10.1016/j.chb.2015.09.011

Comiskey, A., Parent, M. C., & Tebbe, E. A. (2020). An inhospitable world: Exploring a model of objectification theory with trans women. Psychology of Women Quarterly, 44(1), 105–116. https://doi.org/10.1177/0361684319889595

Davis, S. E. (2018). Objectification, sexualization, and misrepresentation: Social media and the college experience. Social Media + Society, 4(3), 2056305118786727. https://doi.org/10.1177/2056305118786727

Dieker, J. L., Renn, B. N., & Daniels, E. A. (2023). Self-objectification: Implications for physical activity in middle-aged women and men. Psychology, Health and Medicine, 28(3), 595–605. https://doi.org/10.1080/13548506.2022.2073377

Dittmar, H. (2007). Consumer culture, identity and well-being: The search for the 'good life' and the 'body perfect'. Psychology Press.

Dittmar, H., & Howard, S. (2004). Thin-ideal internalization and social comparison tendency as moderators of media models' impact on women's body-focused anxiety. Journal of Social & Clinical Psychology, 23(6), 768–791. https://doi.org/10.1521/jscp.23.6.768.54799

Dumas, T. M., Maxwell-Smith, M., Davis, J. P., & Giulietti, P. A. (2020). Lying or longing for likes? Narcissism, peer belonging, loneliness and normative versus deceptive like-seeking on Instagram in emerging adulthood. Computers in Human Behavior, 71, 1–10. https://doi.org/10.1016/j.chb.2017.01.037.

Elias, A. S., & Gill, R. (2017). Beauty surveillance: The digital self-monitoring cultures of neoliberalism. European Journal of Cultural Studies, 21(1), 59–77. https://doi.org/10.1177/1367549417705604

Ellison, N., Heino, R., & Gibbs, J. (2006). Managing impressions online: Self-presentation processes in the online dating environment. Journal of Computer-Mediated Communication, 11(2), 415–441. https://doi.org/10.1111/j.1083-6101.2006.00020.x

Fardouly, J., Diedrichs, P. C., Vartanian, L. R., & Halliwell, E. (2015). Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. Body Image, 13, 38–45. https://doi.org/10.1016/j.bodyim.2014.12.002

Ferdousi, J. S., Bradley, G. L., & Carlini, J. (2023). Through thick and thin: Exposure to Instagram advertisements and willingness to engage in appearance-altering practices. The Journal of Psychology, 157(6), 367–388. https://doi.org/10.1080/00223980.2023.2221014

Festinger, L. (1957). Social comparison theory. Selective Exposure Theory, 16(401), 3.

Fioravanti, G., Bocci Benucci, S., Ceragioli, G., & Casale, S. (2022). How the exposure to beauty ideals on social networking sites influences body image: A systematic review of experimental studies. *Adolescent Research Review*, *7*(3), 419–458. https://doi.org/10.1007/s40894-022-00179-4

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.1177/002224378101800104

Fox, J., & McEwan, B. (2017). Distinguishing technologies for social interaction: The perceived social affordances of communication channels scale. *Communication Monographs*, *84*(3), 298–318. https://doi.org/10.1080/03637751.2017.1332418

Fox, J., Vendemia, M. A., Smith, M. A., & Brehm, N. R. (2021). Effects of taking selfies on women's self-objectification, mood, self-esteem, and social aggression toward female peers. *Body Image*, *36*, 193–200. https://doi.org/10.1016/j.bodyim.2020.11.011

Foysal, K. (2024). The commodification of women's insecurity: How is capitalism exploiting women? *Critical Reflections: A Student Journal on Contemporary Sociological Issues*. https://ojs.leedsbeckett.ac.uk/index.php/SOC/article/view/4681

Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, *21*(2), 173–206. https://doi.org/10.1111/j.1471-6402.1997.tb00108.x

Garcia, R. L., Bingham, S., & Liu, S. (2022). The effects of daily Instagram use on state self-objectification, well-being, and mood for young women. *Psychology of Popular Media*, *11*(4), 423. https://doi.org/10.1037/ppm0000350

Gerbner, G., & Gross, L. (1976). Living with television: The violence profile. *Journal of Communication*, *26*, 172–199. https://doi.org/10.1111/j.1460-2466.1976.tb01397.x

Goodyear, V. A., & Armour, K. M. (2019). *Young people, social media and health*. Taylor & Francis.

Guo, L., Gu, L., Peng, Y., Gao, Y., Mei, L., Kang, Q., Chen, C., Hu, Y., Xu, W., & Chen, J. (2022). Online media exposure and weight and fitness management app use correlate with disordered eating symptoms: Evidence from the mainland of China. *Journal of Eating Disorders*, *10*(1), 58. https://doi.org/10.1186/s40337-022-00577-y

Haines, M. E., Erchull, M. J., Liss, M., Turner, D. L., Nelson, J. A., Ramsey, L. R., & Hurt, M. M. (2008). Predictors and effects of self-objectification in lesbians. *Psychology of Women Quarterly*, *32*(2), 181–187. https://doi.org/10.1111/j.1471-6402.2008.00422.x

Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image*, *17*, 100–110. https://doi.org/10.1016/j.bodyim.2016.02.008

Huang, Q., Qian, M. Y., & Yao, J. S. (2020). Media influence and self-objectification: A review. *Advances in Psychological Science*, *28*(9), 1577–1587.

InsightRonics. (2024). https://www.linkedin.com/pulse/deep-dive-photo-editing-app-market-itstrends-segmentation-iyzxf/

Jackson, T., Cai, L., & Chen, H. (2020). Asian versus Western appearance media influences and changes in body image concerns of young Chinese women: A 12-month prospective study. *Body Image*, *33*, 214–221. https://doi.org/10.1016/j.bodyim.2020.03.008

Jackson, T., & Chen, H. (2015). Features of objectified body consciousness and sociocultural perspectives as risk factors for disordered eating among late-adolescent women and men. *Journal of Counseling Psychology*, *62*(4), 741. https://doi.org/10.1037/cou0000096

Jackson, T., Jiang, C., & Chen, H. (2016). Associations between Chinese/Asian versus Western mass media influences and body image disturbances of young Chinese women. *Body Image*, *17*, 175–183. https://doi.org/10.1016/j.bodyim.2016.03.007

Jin, D. Y., & Feenberg, A. (2015). Commodity and community in social networking: Marx and the monetization of user-generated content. *The Information Society*, *31*(1), 52–60. https://doi.org/10.1080/01972243.2015.977635

Kim, J., & Chock, T. (2015). Body image 2.0: Associations between social grooming on Facebook and body image concerns. *Computers in Human Behavior*, *48*, 331–339. https://doi.org/10.1016/j.chb.2015.01.009

Lamp, S. J., Cugle, A., Silverman, A. L., Thomas, M. T., Liss, M., & Erchull, M. J. (2019). Picture perfect: The relationship between selfie behaviors, self-objectification, and depressive symptoms. *Sex Roles*, *81*(11–12), 704–712. https://doi.org/10.1007/s11199-019-01025-z

Liang, X. (2024). Enhanced convolutional neural network for image processing in 6G smart city environments. *Wireless Personal Communications*, 1–18. https://doi.org/10.1007/s11277-024-11202-3

Loughnan, S., Baldissarri, C., Spaccatini, F., & Elder, L. (2017). Internalizing objectification: Objectified individuals see themselves as less warm, competent, moral, and human. *British Journal of Social Psychology*, *56*(2), 217–232. https://doi.org/10.1111/bjso.12188

Luo, X. (2020). *Young women's attitudes towards Chinese beauty apps* (Bachelor's Dissertation, University of Michigan). https://dx.doi.org/10.7302/2446

Luo, X., & Zhang, R. (2024). Decoding the gendered design and (dis) affordances of face-editing technologies in China. *International Journal of Human-Computer Studies*, *181*, 103149. https://doi.org/10.1016/j.ijhcs.2023.103149

Manago, A. M., Graham, M. B., Greenfield, P. M., & Salimkhan, G. (2008). Self-presentation and gender on MySpace. *Journal of Applied Developmental Psychology*, *29*(6), 446–458. https://doi.org/10.1016/j.appdev.2008.07.001

Manago, A. M., Ward, L. M., Lemm, K. M., Reed, L., & Seabrook, R. (2014). Facebook involvement, objectified body consciousness, body shame, and sexual assertiveness in college women and men. *Sex Roles*, *72*(1–2), 1–14. https://doi.org/10.1007/s11199-014-0441-1

McKinley, N. M., & Hyde, J. S. (1996). The objectified body consciousness scale. *Psychology of Women Quarterly*, *20*(2), 181–215. https://doi.org/10.1111/j.1471-6402.1996.tb00467.x

McLean, S. A., Jarman, H. K., & Rodgers, R. F. (2019). how do "selfies" impact adolescents' well-being and body confidence? A narrative review. *Psychology Research and Behavior Management*, *12*, 513–521. https://doi.org/10.2147/PRBM.S177834

Moradi, B. (2010). Addressing gender and cultural diversity in body image: Objectification theory as a framework for integrating theories and grounding research. *Sex Roles*, *63*(1–2), 138–148. https://doi.org/10.1007/s11199-010-9824-0

Moradi, B., Dirks, D., & Matteson, A. V. (2005). Roles of sexual objectification experiences and internalization of standards of beauty in eating disorder symptomatology: A test and extension of objectification theory. *Journal of Counseling Psychology*, *52*(3), 420–428. https://doi.org/10.1037/0022-0167.52.3.420

Moradi, B., & Huang, Y. P. (2008). Objectification theory and psychology of women: A decade of advances and future directions. *Psychology of Women Quarterly*, *32*(4), 377–398. https://doi.org/10.1111/j.1471-6402.2008.00452.x

Morry, M. M., & Staska, S. L. (2001). Magazine exposure: Internalization, self-objectification, eating attitudes, and body satisfaction in male and female university students. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, *33*(4), 269–279. https://doi.org/10.1037/h0087148

Nesi, J., & Prinstein, M. J. (2015). Using social media for social comparison and feedback-seeking: Gender and popularity moderate associations with depressive symptoms. *Journal of Abnormal Child Psychology*, *43*(8), 1427–1438. https://doi.org/10.1007/s10802-015-0020-0

Noll, S. M., & Fredrickson, B. L. (1998). A mediational model linking self-objectification, body shame, and disordered eating. *Psychology of Women Quarterly*, *22*(4), 623–636. https://doi.org/10.1111/j.1471-6402.1998.tb00181.x

Nunnally, J. C. (1978). An overview of psychological measurement in Clinical diagnosis of mental disorders. In B. B. Wolman (Ed.), *Clinical Diagnosis of Mental Disorders: A Handbook* (pp. 97–146). Springer.

Perloff, R. M. (2014). Social media effects on young Women's body image concerns: Theoretical perspectives and an agenda for research. *Sex Roles*, *71*(11–12), 363–377. https://doi.org/10.1007/s11199-014-0384-6

Piccoli, V., Carnaghi, A., Grassi, M., & Bianchi, M. (2022). The relationship between Instagram activity and female body concerns: The serial mediating role of appearance-related comparisons and internalization of beauty norms. *Journal of Community & Applied Social Psychology*, *32*(4), 728–743. https://doi.org/10.1002/casp.2586

QuestMobile. (2021). *QuestMobile 2021 China Mobile internet Autumn report*. https://www.meitu.com/en/media/354

QuestMobile. (2022). *QuestMobile 2022 China Mobile internet Autumn report*. https://www.chinatradingdesk.com/post/2022-china-mobile-internet-semi-annual-summary

Research, Verified Market. (2024). *Global photo editing app market size by platform, by type, by end-user, by geographic scope and forecast*. Retrieved September 19, from https://www.verifiedmarketresearch.com/product/photo-editing-app-market/

Rousseau, A. (2024). Body-positive Instagram exposure and young women's body image: The mediating role of appearance comparison and broadly conceptualizing beauty. *Health Communication*, *39*(8), 1520–1531. https://doi.org/10.1080/10410236.2023.2222460

Setter, S. (2021). *The meaning of makeup: Emotional labor and performance in the beauty influencer industry* [Doctoral dissertation]. Central European University.

Sharma, N. (2024). The effect of social media on body image, self-esteem and social appearance anxiety among young adults. *International Journal of Research and Analytical Reviews (IJRAR)*, *11*(1), 38–72.

Shensa, A., Escobar-Viera, C. G., Sidani, J. E., Bowman, N. D., Marshal, M. P., & Primack, B. A. (2017). Problematic social media use and depressive symptoms among U.S. young adults: A nationally-representative study. *Social Science & Medicine*, *182*, 150–157. https://doi.org/10.1016/j.socscimed.2017.03.061

Statista. (2024a). *Countries with the largest digital populations in the world as of January 2024*. Statista. Retrieved January 10, from https://www.statista.com/statistics/262966/number-of-internet-users-in-selected-countries/

Statista. (2024b). China: Internet users weekly average time spent online 2024. *Statista*. Retrieved January 10, from https://www.statista.com/statistics/265176/average-online-time-of-users-in-china/

Stein, J. P., Krause, E., & Ohler, P. (2021). Every (insta) Gram counts? Applying cultivation theory to explore the effects of Instagram on young users' body image. *Psychology of Popular Media*, *10*(1), 87. https://doi.org/10.1037/ppm0000268

Subrahmanyam, K., & Smahel, D. (2011). *Digital youth*. Springer.

Szymanski, D. M., & Henning, S. L. (2007). The role of self-objectification in women's depression: A test of objectification theory. *Sex Roles*, *56*(1–2), 45–53. https://doi.org/10.1007/s11199-006-9147-3

Tao, M., & Lin, K. (2022, December). Face recognition based beauty algorithm in smart city applications. In *2022 18th International Conference on Mobility, Sensing and Networking (MSN)* (pp. 627–632). IEEE.

Thompson, J. K., Van den Berg, P., Roehrig, M., Guarda, A. S., & Heinberg, L. J. (2004). The sociocultural attitudes towards appearance scale-3 (SATAQ-3): Development and validation. *International Journal of Eating Disorders*, *35*(3), 293–304. https://doi.org/10.1002/eat.10257

Tiggemann, M., & Slater, A. (2014). NetGirls: The internet, Facebook, and body image concern in adolescent girls. *International Journal of Eating Disorders*, *47*(6), 630–640. https://doi.org/10.1002/eat.22141

Tinning, R. (2010). *Pedagogy and human movement: Theory, practice, research*. Routledge.

Vandenbosch, L., & Eggermont, S. (2012). Understanding sexual objectification: A comprehensive approach toward Media exposure and girls' internalization of beauty ideals, self-objectification, and body surveillance. *Journal of Communication*, *62*(5), 869–887. https://doi.org/10.1111/j.1460-2466.2012.01667.x

Velez, B. L., Campos, I. D., & Moradi, B. (2015). Relations of sexual objectification and racist discrimination with latina women's body image and mental health. *Counseling Psychologist*, *43*(6), 906–935. https://doi.org/10.1177/0011000015591287

Vendemia, M. A., & DeAndrea, D. C. (2018). The effects of viewing thin, sexualized selfies on Instagram: Investigating the role of image source and awareness of photo editing practices. *Body Image*, *27*, 118–127. https://doi.org/10.1016/j.bodyim.2018.08.013

Vendemia, M. A., & DeAndrea, D. C. (2021). The effects of engaging in digital photo modifications and receiving favorable comments on women's selfies shared on social media. *Body Image*, *37*, 74–83. https://doi.org/10.1016/j.bodyim.2021.01.011

Vivienne, S., & Burgess, J. (2013). The remediation of the personal photograph and the politics of self-representation in digital storytelling. *Journal of Material Culture*, *18*(3), 279–298. https://doi.org/10.1177/1359183513492080

Wängqvist, M., & Frisén, A. (2016). Who am I online? Understanding the meaning of online contexts for identity development. *Adolescent Research Review*, *1*(2), 139–151. https://doi.org/10.1007/s40894-016-0025-0

Wen, H. (2009). "Being good-looking is capital": Cosmetic surgery in China Today. *Asian Anthropology*, *8*(1), 89–107. https://doi.org/10.1080/1683478X.2009.10552588

Wen, H. (2013). *Buying beauty: Cosmetic surgery in China*. Hong Kong University.

Wever, C. C. C., Wever, A. M. E. A., & Constantian, M. (2020). Psychiatric disorders in facial plastic surgery. *Facial Plastic Surgery Clinics of North America*, *28*(4), 451–460. https://doi.org/10.1016/j.fsc.2020.06.003

Wollast, R., Riemer, A. R., Gervais, S. J., Grigoryan, L., Bernard, P., & Klein, O. (2021). How cultural orientation and self-compassion shape objectified body consciousness for women from America, Belgium, Russia, and Thailand. *Self and Identity*, *20*(7), 930–950. https://doi.org/10.1080/15298868.2020.1787220

Ybarra, M. L., & Mitchell, K. J. (2005). Exposure to internet pornography among children and adolescents: A national survey. *Cyberpsychology & Behavior*, *8*(5), 473–486. https://doi.org/10.1089/cpb.2005.8.473

Yue, Y., & Tang, H. (2024). Happy being me: Unraveling the effect process of appearance-related social media exposure on body esteem among females with varying levels of trait self-objectification. *Current Psychology*, *43*(38), 30500–30511. https://doi.org/10.1007/s12144-024-06655-5

Zahara, D. M., & Farlina, N. (2023). Challenging objectification through alternative beauty concepts in the film I feel pretty (2018). *Celtic: A Journal of Culture, English Language Teaching, Literature and Linguistics*, *10*(1), 63–80. https://doi.org/10.22219/celtic.v10i1.27028

Zhang, R. (2024). *Deconstructing Beauty Ideals: Presentation of Beauty on Douyin and Young Chinese Women's*. University of Michigan). https://doi.org/10.7302/23409

Zhu, D., & Huang, V. (2024). Getting anxious while retouching photos? Exploring the relationships between affordances of photo retouching applications and appearance anxiety. In *Proceedings of the 57th Hawaii International Conference on System Sciences* (pp. 2414–2422).

Zhu, L., Wang, Y., & Chen, Y. (2024). Sharenting in China: Perspectives from mothers and adolescents. *Internet Research*. https://doi.org/10.1108/INTR-05-2023-0339