

Article

Individual Differences in Susceptibility to Appearance-Based Social Comparison on Social Media: The Roles of Depressive Symptoms and Mindfulness

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Abstract

Social media increases opportunities for appearance-based social comparison, which may negatively impact body image and affective well-being. However, limited research has addressed how individual characteristics, such as depressive symptoms and dispositional mindfulness, influence susceptibility to these effects. Guided by the Differential Susceptibility to Media Effects Model (DSMM), the present study examined a framework connecting depressive symptoms, facets of mindfulness, appearance-based social comparison, body image positivity, and affective well-being. This study explored depressive symptoms and acting with awareness in relation to appearance-based social comparison. Additionally, it evaluated whether nonjudgment moderates the association between appearance-based social comparison and body image positivity. A total of 341 undergraduate students at a Canadian university participated in a cross-sectional online survey. In line with the DSMM, depressive symptoms and acting with awareness were indirectly associated with affective well-being. Higher depressive symptoms were associated with increased appearance-based social comparison, which was associated with lower body image positivity and, in turn, poorer affective well-being. Greater acting with awareness was related to reduced appearance-based social comparison. Nonjudgment did not moderate the relationship between appearance-based social comparison and body image positivity. These findings enhance understanding of individual differences in appearance-based social comparison on social media and suggest directions for future research on interventions that promote healthier social media experiences.

Keywords: social media; appearance; social comparison; body image; affective well-being; depressive symptoms; mindfulness; undergraduate students

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1. Introduction

As social media has become increasingly integrated into everyday life, appearance-related pressures have intensified. Platform features that encourage idealized self-presentation have likely contributed to rising rates of body dissatisfaction, body-image-related disorders, and cosmetic modification [1,2]. Although appearance-based social comparison is a well-established mechanism linking social media use to body image and psychological well-being [3], less is known about the individual factors that influence susceptibility to these processes. Guided by the Differential Susceptibility to Media Effects Model (DSMM), the present study examines the associations among appearance-based social comparison, body image positivity, and affective well-being. Building on

previous research, depressive symptoms and acting with awareness are examined in relation to appearance-based social comparison. Additionally, nonjudgment is explored as a moderator of the association between appearance-based social comparison and body image positivity.

1.1. Social Media, Body Image, and Appearance-Based Social Comparison

Body image refers to individuals' perceptions, thoughts, and emotions regarding their physical appearance [4] and constitutes a significant component of psychological well-being. Positive body image is associated with greater self-worth, increased positive affect, and lower negative affect [5–7]. Conversely, body dissatisfaction is associated with poorer mental health outcomes, with chronic dissatisfaction linked to sadness, low mood, and depressive symptoms [8].

Sociocultural influences, including peer interactions, media exposure, and societal appearance norms, play a significant role in shaping body image [9]. Social media integrates these influences within a single environment. Because these platforms are particularly popular among young adults—a demographic at elevated risk for body-image-related pathology [10]—social media use may contribute to the development and maintenance of appearance concerns. Highly visual platforms such as Instagram, Facebook, and TikTok provide users with a continuous stream of curated, appearance-focused content [11]. Much of this content is created by influencers and other content creators who display idealized and frequently unattainable appearances. These portrayals, often perceived as relatable, may reinforce dominant beauty ideals, including thinness for women and muscularity for men [12–14]. Compared to traditional media, this content is often perceived as more authentic and personally relevant, which may reduce users' critical engagement with such material [15]. Social endorsement indicators, including likes, comments, and follower counts, further reinforce these appearance ideals by signaling which appearances are socially valued and rewarded [16,17]. Together, these features of social media have been associated with poorer appearance-related self-evaluations. For example, exposure to idealized body images on social media correlates with increased body dissatisfaction among both women and men [18,19]. Conversely, reducing daily social media use has been shown to improve appearance- and weight-related self-evaluations among youth [20].

A prominent explanation for the association between social media use and body image outcomes is social comparison. Festinger's social comparison theory posits that individuals evaluate themselves by comparing their attributes and abilities with those of others [21]. Upward social comparison, in which individuals compare themselves to others perceived as superior, may occasionally foster aspiration and motivation if the comparison target is perceived as attainable. However, upward social comparison is more commonly associated with feelings of inadequacy, envy, and depressive affect [22,23]. Systematic reviews similarly conclude that upward social comparison on social media is predominantly associated with negative self-evaluation and emotions rather than positive outcomes [24]. Because highly visual social media platforms emphasize physical appearance, and appearance plays a central role in self-worth among youth [25], social comparison on these platforms often focuses on appearance. Upward appearance-based social comparison is therefore considered a key mechanism linking exposure to idealized social media content with poorer body image [3,12,13,26]. The association between appearance-based social comparison and body image persists even after controlling for factors such as age and self-esteem [25].

Collectively, these findings suggest that the effects of exposure to appearance-related content on social media depend not only on the amount of exposure but also on how individuals evaluate their own appearance relative to the portrayals they encounter. However, susceptibility to appearance-based social comparison varies among individuals [26].

Differences in attention to, interpretation of, and responses to appearance-related content may influence the relation between exposure to such content and both body image and affective well-being.

1.2. Differential Susceptibility to Appearance-Based Social Comparison

The Differential Susceptibility to Media Effects Model (DSMM) posits that media effects arise through indirect pathways, wherein individual susceptibility factors influence both media use and responses to media content, ultimately affecting psychological well-being outcomes [27]. Importantly, susceptibility factors may function not only as antecedents to media responses but also as moderators that can amplify or attenuate media effects. In the current study, depressive symptoms and mindfulness were identified as susceptibility factors that may influence engagement in appearance-based social comparison and its associations with body image and affective well-being. Given that positive and negative affect are related yet distinct dimensions of affective well-being, they were analyzed separately [28].

1.2.1. Depressive Symptoms

Depression is a mood disorder characterized by persistent low mood and diminished interest or pleasure, accompanied by cognitive, affective, and somatic symptoms that impair daily functioning [29]. Cognitive models further propose that depression is characterized by stable negative self-schemas, including beliefs of inadequacy and unworthiness [30]. These schemas shape attention, interpretation, and encoding of information, increasing the likelihood that individuals with depression notice and dwell on information confirming their negative self-views [31]. This tendency aligns with self-verification theory, which proposes that individuals are motivated to seek and maintain information that affirms their existing self-beliefs, even when those beliefs are negative [32]. Additionally, depression is associated with heightened uncertainty about the self, which may intensify motives for self-assessment and prompt individuals to evaluate their standing relative to others [33]. Together, these cognitive and self-evaluative tendencies suggest that individuals with elevated depressive symptoms may be more susceptible to engaging in unfavourable appearance-based social comparison when exposed to appearance-related information. Indeed, depression has been identified as a prospective risk factor for body dissatisfaction during adolescence [34,35].

Previous research has primarily conceptualized depressive symptoms as an outcome of social media use [23,36,37]. However, emerging evidence suggests that depressive symptoms may also serve as an antecedent, influencing how individuals cognitively and emotionally respond to social media content, particularly in relation to upward social comparison. For example, Aubry and colleagues [38] found that individuals with higher levels of depressive symptoms were more motivated to evaluate themselves relative to others and were more likely to perceive others as better off, which was associated with increased unpleasant affect. Longitudinal studies further demonstrate that depressive symptoms prospectively predict Facebook-induced envy and engagement in social comparison behaviors one year later [39,40]. Thus, individuals experiencing elevated depressive symptoms may be more inclined to seek evaluative information about themselves while focusing on content that reinforces negative self-views, thereby increasing their susceptibility to upward appearance-based social comparison.

Accordingly, the present study examined whether depressive symptoms are indirectly associated with affective well-being through appearance-based social comparison and body image positivity (see Figure 1 for an illustration of the hypothesized models). Drawing on the existing literature, the following hypotheses were formulated:

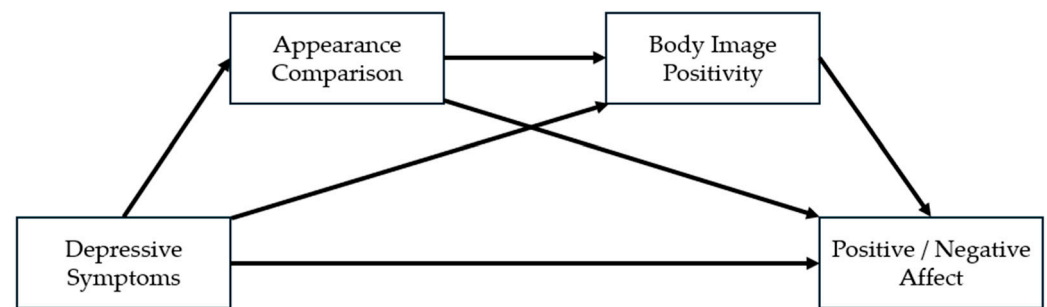


Figure 1. Hypothesized conceptual model illustrating the relationships among depressive symptoms, appearance-based social comparison (referred to as appearance comparison in the model), body image positivity, and affective well-being. The model depicts the proposed direct and indirect associations among the study variables, with positive affect and negative affect analyzed as separate outcomes.

H1a. *Higher depressive symptoms are indirectly associated with lower positive affect through increased appearance-based social comparison and reduced body image positivity.*

H1b. *Higher depressive symptoms are indirectly associated with greater negative affect through increased appearance-based social comparison and reduced body image positivity.*

1.2.2. Mindfulness

Mindfulness refers to the capacity to maintain awareness of the present moment, encompassing both internal and external experiences, in a nonreactive and nonjudgmental manner [41,42]. Mindfulness has been conceptualized as a state of consciousness, with elevated levels associated with enhanced psychological well-being and self-esteem [41], reduced stress [43], and decreased depressive symptoms [44]. Furthermore, it has been linked to less frequent upward social comparisons in both offline contexts [45,46] and on social media platforms [47,48].

Mindfulness has been conceptualized as comprising five related facets [49]. Due to their theoretical relevance to social comparison, the present study focuses on acting with awareness and nonjudgment, which may influence different stages of the social comparison process. Acting with awareness involves deliberately and consciously attending to present-moment experiences, rather than operating on autopilot. Because social comparison is often automatic and evaluative [50,51], this facet may disrupt habitual social comparison by promoting deliberate attentional control. Supporting this idea, empirical evidence demonstrates that mindfulness is associated with improved executive attention and meta-awareness [52]. Increased awareness can create psychological distance between exposure to social comparison content and an individual's response [42], thereby enabling disengagement from unhelpful comparisons before they result in negative self-evaluations. As a result, individuals with higher levels of acting with awareness may be less likely to engage in appearance-based social comparison.

Nonjudgment may play a critical role in shaping responses following appearance-based social comparisons. Evidence suggests that both mindfulness and self-compassion attenuate the negative effects of social comparison on self-evaluations [53], and interventions designed to increase self-compassion improve body image outcomes [54]. As self-compassion involves responding to oneself with understanding rather than criticism and conceptually overlaps with nonjudgment [55], nonjudgment may be especially relevant for understanding responses to appearance-based social comparison. Instead of suppressing or altering internal experiences, individuals high in nonjudgment allow thoughts to arise without assigning negative meaning or personal significance. Importantly, nonjudgment does not eliminate evaluative thoughts or comparisons but alters their interpretation. Therefore,

individuals with higher levels of nonjudgment may be less likely to interpret perceived discrepancies revealed through appearance-based social comparisons as indicators of their self-worth, thereby reducing their negative associations with self-evaluations and affective well-being.

The present study examined whether acting with awareness is associated with appearance-based social comparison and whether nonjudgment moderates the association between appearance-based social comparison and body image positivity. Figure 2 illustrates the hypothesized models. Drawing on the existing literature, the following hypotheses were formulated:

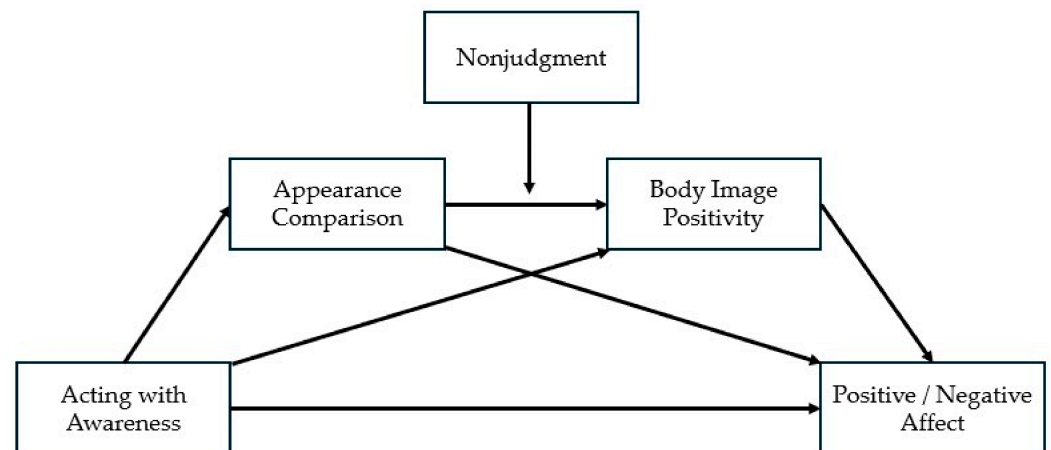


Figure 2. Hypothesized conceptual model illustrating the relationships among acting with awareness, appearance-based social comparison (referred to as Appearance Comparison in the model), body image positivity, and affective well-being. The model depicts the proposed direct and indirect associations among the study variables, with nonjudgment hypothesized to moderate the association between appearance-based social comparison and body image positivity. Positive affect and negative affect are examined as separate outcomes.

H2a. *Higher acting with awareness is indirectly associated with greater positive affect through reduced appearance-based social comparison and increased body image positivity.*

H2b. *Higher acting with awareness is indirectly associated with lower negative affect through reduced appearance-based social comparison and increased body image positivity.*

H3. *Nonjudgment moderates the association between appearance-based social comparison and body image positivity, such that the negative association between appearance-based social comparison and body image positivity is weaker among individuals higher in nonjudgment.*

2. Materials and Methods

This study was approved by the Human Research Ethics Board at Mount Royal University and complies with the principles of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, Second Edition. All individuals attending university are deemed capable of providing consent to participate in research. All materials, data, and computer code associated with this publication are available via the Open Science Framework (OSF) at <https://osf.io/9mqtf/>.

2.1. Participants & Procedure

The study recruited undergraduate students enrolled in introductory psychology courses at Mount Royal University (a western Canadian undergraduate institution) through the Department of Psychology research participation pool. Participation was open to stu-

dents enrolled in these courses, and the survey was administered in English. Data collection was performed online using the Qualtrics survey platform between 21 November 2025 and 13 April 2026. Informed consent for participation was obtained from all participants involved in the study. As compensation, participants received research participation credit applicable to their introductory psychology course.

A total of 341 individuals (aged 17–41 years; $M = 20.8$, $SD = 3.7$) completed the survey. The sample consisted of 272 participants who identified as female (79.8%), 61 who identified as male (17.9%), 6 who identified as non-binary (1.8%), 1 who identified as an unlisted gender (0.3%), and 1 who preferred not to disclose (0.3%). Moreover, 122 considered themselves a visible minority (35.9%), 172 as not a visible minority (50.6%), 13 as multiple visible minorities (3.8%), and 33 preferred not to answer (9.7%).

2.2. Measures

2.2.1. General Appearance Comparison Scale

This three-item measure assesses the extent to which individuals compare their physical appearance to that of others while using social media [56]. Participants indicated their level of agreement with each statement (e.g., “When using social media, I compare my physical appearance to the physical appearance of others”) on a 5-point Likert scale (1 = definitely disagree, 5 = definitely agree). Item responses were averaged to produce a mean score ranging from 1 to 5, with higher scores indicating greater engagement in appearance-based social comparison. The scale contained no reverse-coded items.

2.2.2. Body Esteem Scale for Adolescents and Adults (BESAA)

Used to measure body image positivity, the BESAA [57] assesses evaluative and affective perceptions of one’s body and appearance. Participants rated the frequency of 23 body-related thoughts and feelings (e.g., “I like what I look like in pictures”, “I wish I looked better”) on a 5-point Likert scale (0 = never, 4 = always). Eight negatively worded items were reverse-coded in accordance with the published scoring instructions before item responses were summed. Total scores could range from 0 to 92, with higher scores reflecting more positive body image.

2.2.3. Positive and Negative Affect Schedule (PANAS-20)

The PANAS [58] presents respondents with 20 emotion adjectives and asks them to indicate the extent to which they experienced each emotion during the past week (1 = very slightly or not at all, 5 = extremely). Separate positive affect and negative affect scores were calculated by summing the 10 items corresponding to each subscale. Examples of positive affect items included interested, excited, and inspired, whereas examples of negative affect items included upset, ashamed, and guilty. Each subscale score could range from 10 to 50, with higher scores indicating greater levels of the respective affective state. The PANAS subscales contained no reverse-coded items.

2.2.4. Patient Health Questionnaire (PHQ-8)

The PHQ-8 [59] is an 8-item measure assessing the frequency of depressive symptoms experienced during the previous two weeks using a 4-point response scale (0 = not at all, 3 = nearly every day). Item responses were summed to produce a total score ranging from 0 to 24, with higher scores indicating greater depressive symptom severity. The PHQ-8 contained no reverse-coded items.

2.2.5. Five Facet Mindfulness Questionnaire (FFMQ)

The FFMQ [49] comprises five subscales corresponding to distinct facets of mindfulness. Participants indicated how frequently or how accurately each of the 39 items

described them (1 = Never or very rarely true, 5 = very often or always true). Although the full FFMQ was administered to minimize potential response biases and maintain the standard administration format, the study used only the Acting with Awareness (8 items) and Nonjudging of Inner Experience (8 items) subscales, which assessed acting with awareness and nonjudgment, respectively. These two facets were selected because previous theoretical and empirical research suggests they are most directly relevant to the processes examined in the present study. Specifically, acting with awareness has been associated with reduced automatic engagement in maladaptive cognitive processes, whereas nonjudgment has been proposed to reduce the negative impact of self-evaluative thoughts and emotions. The remaining FFMQ facets were not included because they were not directly related to the hypothesized pathways linking appearance-based social comparison with body image and affective well-being.

Because all 16 relevant items were negatively worded, all items were reverse-coded in accordance with the published scoring instructions before responses were averaged. Mean subscale scores could range from 1 to 5, with higher scores reflecting greater acting with awareness and nonjudgment.

2.2.6. Sample Characteristics

Demographic information about age, gender, and ethnic identity was collected. Gender response options included male, female, non-binary, another gender not listed, and prefer not to disclose. Aligning with Statistics Canada's general classifications, response options for ethnic identity included visible minority, not a visible minority, multiple visible minorities, and prefer not to disclose.

To characterize social media use, participants reported the platforms they used several times per week by selecting from a predefined list of platforms (see Table A1). Frequency of social media use was assessed using a single item asking participants how often they used social media overall, with options ranging from "less than once a week" to "almost constantly" (see Table A2 for the complete list of response options). Daily social media use was assessed using a single item asking participants to estimate how much time they spend on social media on an average day. Responses were recorded on an 8-point ordinal scale ranging from 1 (less than 1 h) to 8 (more than 8 h), with intermediate categories representing one-hour intervals (e.g., 4 = 3–4 h, 6 = 5–6 h) (see Table A3 for the complete list of response options). An ordinal response format was selected to facilitate participants' estimation of average daily social media use using broad time intervals rather than requiring estimates of exact hours or minutes.

2.3. Statistical Analyses

All statistical analyses were conducted in R (Version 4.5.1) within the RStudio integrated development environment. The "psych", "dplyr", and "car" packages were used to assess descriptive statistics and test assumptions. Mediation and moderated mediation analyses were conducted using Andrew Hayes' PROCESS Version 5.0 macro for R (implemented via the PROCESS R script) [60].

Prior to analysis, data were screened for duplicate submissions, unusually rapid completion times, incomplete responses, and obvious response patterns indicative of poor-quality data (i.e., selecting the same response option across all items). No a priori cutoffs were established for completion time or response patterns, as the intent was to identify anomalies based on observed data distribution rather than arbitrary thresholds. No cases met these criteria for exclusion. Missing item-level data were minimal (<0.1% of all responses). Median imputation was used to replace three missing FFMQ item responses and two missing PANAS item responses across different participants before calculating

composite scale scores. One missing age value was not imputed and was treated as missing in analyses.

Descriptive statistics, including frequencies, measures of central tendency, and measures of variability, were computed to summarize sample characteristics and study variables. Pearson correlations were calculated to examine bivariate associations among model variables. Internal consistency reliability was assessed using Cronbach's alpha.

Because PROCESS permits only a single outcome variable per analysis, separate models were estimated for positive affect and negative affect. Four models were tested. All continuous study variables (independent, mediator, moderator, outcome, and covariate variables) were standardized (z-scores) prior to analysis, resulting in standardized regression coefficients. A custom seed (i.e., 12345) was set for reproducibility, and all other PROCESS options were left at their default settings. Associations are considered statistically significant when the confidence interval does not include zero.

First, to examine the hypothesized role of depressive symptoms, PROCESS Model 6 was used to test serial mediation. Depressive symptoms were entered as the independent variable (X), appearance-based social comparison as the first mediator (M1), body image positivity as the second mediator (M2), and either positive affect or negative affect as the outcome variable (Y). Second, to examine the hypothesized role of dispositional mindfulness, PROCESS Model 91 was used to test the hypothesized moderated serial mediation models. Acting with awareness was entered as the independent variable (X), appearance-based social comparison as the first mediator (M1), body image positivity as the second mediator (M2), and either positive affect or negative affect as the outcome variable (Y). Nonjudgment was included as a moderator (W) of the association between appearance-based social comparison and body image positivity. Thus, the model tested whether the indirect association between acting with awareness and affective well-being through appearance-based social comparison and body image positivity varied as a function of nonjudgment.

Indirect and conditional indirect effects were estimated using 5000 bootstrap samples with 95% bias-corrected confidence intervals. Indirect effects are considered statistically significant when the confidence interval does not include zero. For the moderated mediation analysis, evidence of moderated mediation was evaluated using Hayes' index of moderated mediation; moderated mediation is considered significant when the 95% confidence interval for the index does not include zero. Significant moderating effects were probed using PROCESS at low (16th percentile), medium (50th percentile), and high (84th percentile) levels of nonjudgment.

Because the sample spanned late adolescence through adulthood (17–41 years), age was included as a covariate to account for age-related differences and to maintain consistency with previous research examining social comparison and body image [25]. Gender was not included in the primary analyses because the study examined psychological processes observed across both women and men [18,19], rather than testing gender differences in these associations. Similarly, daily social media use was not included because the study focused on appearance-based social comparison rather than overall social media exposure, as time spent on social media does not necessarily reflect engagement in appearance-based social comparison. To evaluate the robustness of these analytic decisions, sensitivity analyses including gender and daily social media use as additional covariates were conducted and are also reported in the Results.

3. Results

3.1. Descriptive Statistics

Descriptive statistics for social media use metrics are reported in Tables A1–A3. Most participants identified Instagram ($n = 317$), TikTok ($n = 275$), and YouTube ($n = 219$) as

platforms used several times a week (see Table A1). In terms of frequency, 32.8% of participants reported almost constant daily use, while 62.2% indicated using social media several times per day (see Table A2). On average, participants reported moderate daily social media use ($M = 4.37$, $SD = 1.83$ on an 8-point ordinal scale). The median and modal response categories corresponded to 3–4 h per day, with the interquartile range spanning from 2–3 h to 5–6 h per day (see Table A3 for the distribution of estimated daily time spent on social media).

Table 1 presents the means, standard deviations (SD), Cronbach's alpha, and Pearson correlations among variables included in the hypothesized models. The observed correlations were generally consistent with the hypothesized associations.

Table 1. Descriptive Statistics and Pearson Correlations for Study Variables.

Variable	1	2	3	4	5	6	7	<i>M (SD)</i>	α
1. Age								20.8 (3.7)	
2. Comparison	0.02							3.9 (0.9)	0.88
3. Body image	−0.10	−0.42 ***						45.8 (15.9)	0.85
4. Positive affect	0.04	−0.18 **	0.40 ***					29.8 (6.9)	0.88
5. Negative affect	0.03	0.23 ***	−0.36 ***	−0.18 **				26.1 (8.2)	0.82
6. Depressive	−0.01	0.27 ***	−0.38 ***	−0.29 ***	0.68 ***			11.0 (5.9)	0.93
7. Awareness	−0.04	−0.28 ***	0.25 ***	0.18 **	−0.42 ***	−0.51 ***		2.8 (0.7)	0.86
8. Nonjudgment	0.00	−0.27 ***	0.33 ***	0.24 ***	−0.53 ***	−0.54 ***	0.50 ***	2.9 (0.8)	0.87

Note. Comparison = appearance-based social comparison; Body image = body image positivity; Depressive = depressive symptoms; Awareness = acting with awareness; M = mean; SD = standard deviation; α represents Cronbach's alpha reliability coefficient for the present sample. Pearson correlation coefficients are presented below the diagonal. ** $p < 0.01$, *** $p < 0.001$.

3.2. Testing Hypothesized Models

Since age was included as a covariate in the hypothesized models, one participant who did not report their age was excluded from the following analyses.

Regression assumptions were evaluated for each regression equation prior to conducting mediation analyses. Linearity, homoscedasticity, and residual normality were assessed using visual inspection of residual-versus-fitted, scale-location, and normal Q–Q plots. Multicollinearity was evaluated using variance inflation factors (VIFs), and influential observations were assessed using Cook's distance and leverage diagnostics. No substantial violations of regression assumptions were identified.

3.2.1. Modeling Depressive Symptoms as the Independent Variable

Two serial mediation models were conducted to examine whether appearance-based social comparison and body image positivity explained the association between depressive symptoms and positive affect and negative affect. Bootstrap analyses indicated significant indirect associations between depressive symptoms and both positive and negative affect through appearance-based social comparison and body image positivity (positive affect: $\beta = -0.03$, Boot SE = 0.01, 95% Boot CI [−0.05, −0.02]; negative affect: $\beta = 0.01$, Boot SE = 0.01, 95% Boot CI [0.001, 0.02]). Table A4 provides the bootstrap estimates of all indirect effects, indicating that depressive symptoms were also indirectly related to positive and negative affect through body image positivity. Figure 3 presents the standardized path coefficients for the models. Notably, higher depressive symptoms were associated with greater appearance-based social comparison, which was associated with lower body image positivity. Lower body image positivity was associated with lower positive affect and higher negative affect. Age was a significant covariate for body image positivity ($\beta = -0.09$, 95% CI [−0.19, −0.001]).

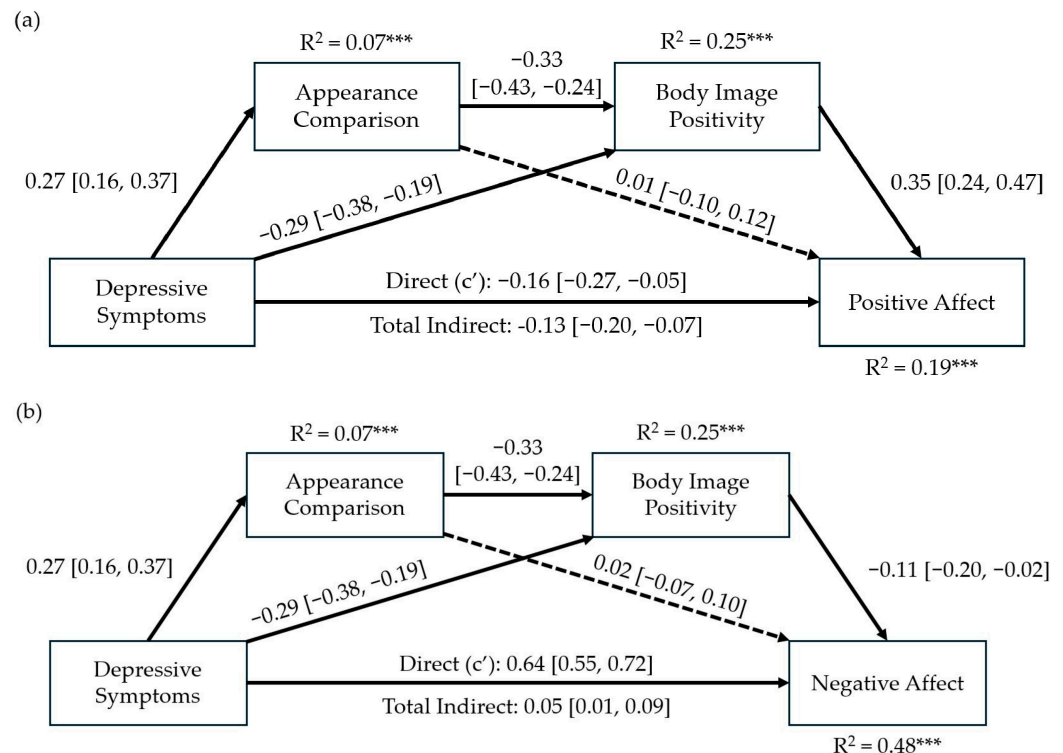


Figure 3. Standardized path coefficients for the serial mediation models (PROCESS Model 6) examining the associations between depressive symptoms and affective well-being through appearance-based social comparison (referred to as Appearance Comparison in the model) and body image positivity. (a) Positive affect was specified as the outcome variable; (b) Negative affect was specified as the outcome variable. Values represent standardized regression coefficients, with 95% confidence intervals shown in brackets. Solid lines indicate statistically significant paths (95% confidence interval does not include zero), whereas dashed lines indicate nonsignificant paths (95% confidence interval includes zero). Standardized direct effects (c') and total indirect effects are displayed along the path from depressive symptoms to the outcome variable. Values above the endogenous variables represent the proportion of variance explained (R^2). Asterisks denote the statistical significance of R^2 values ($*** p < 0.001$).

3.2.2. Modeling Facets of Mindfulness as the Independent Variable and Moderator

Two moderated serial mediation models were conducted to examine whether acting with awareness was associated with appearance-based social comparison and whether nonjudgment moderated the association between appearance-based social comparison and body image positivity. Age was not a significant covariate in any model. Figure 4 presents the standardized path coefficients for the models. As illustrated in Figure 4, nonjudgment did not significantly moderate the association between appearance-based social comparison and body image positivity ($\beta = 0.04$, 95% CI $[-0.04, 0.12]$). In addition, the indices of moderated mediation were not significant for either positive affect ($\beta = -0.004$, Boot SE = 0.005, 95% Boot CI $[-0.02, 0.01]$) or negative affect ($\beta = 0.003$, Boot SE = 0.004, 95% Boot CI $[-0.004, 0.01]$). Thus, there was no evidence that the indirect association between acting with awareness and affective well-being through appearance-based social comparison and body image positivity varied as a function of nonjudgment.

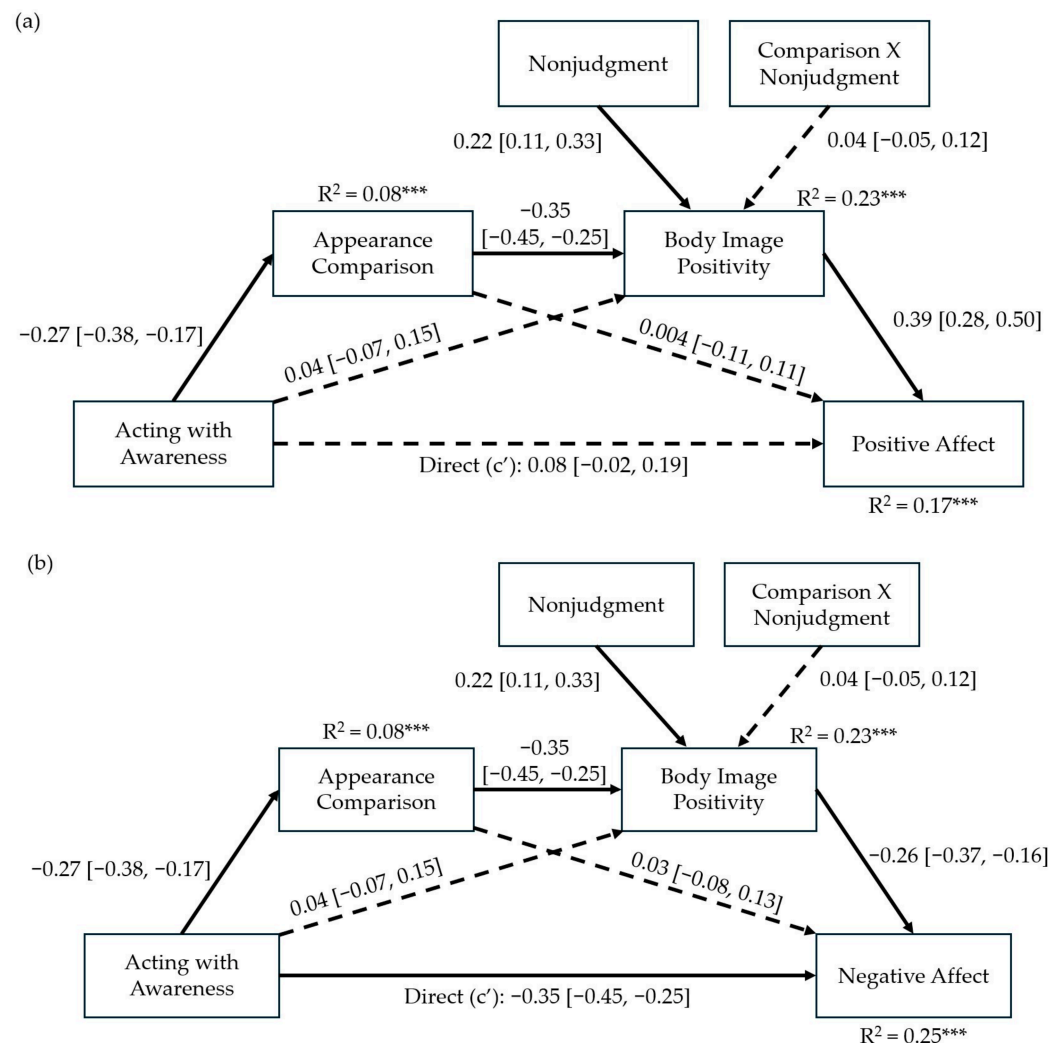


Figure 4. Standardized path coefficients for the moderated mediation models (PROCESS Model 91) that examine the association between acting with awareness and affective well-being through appearance-based social comparison (referred to as Appearance Comparison in the model) and body image positivity, with nonjudgment as a moderator (referred to as Comparison $\times$ Nonjudgment in the model). (a) Positive affect was specified as the outcome variable; (b) Negative affect was specified as the outcome variable. Values represent standardized regression coefficients, with 95% confidence intervals shown in brackets. Solid lines indicate statistically significant paths (95% confidence interval does not include zero), whereas dashed lines indicate nonsignificant paths (95% confidence interval includes zero). Standardized direct effects (c') are displayed along the path from depressive symptoms to the outcome variable. Values above the endogenous variables represent the proportion of variance explained (R^2). Asterisks denote the statistical significance of R^2 values ($*** p < 0.001$).

Although moderated mediation was not supported, the indirect association between acting with awareness and affective well-being through appearance-based social comparison and body image positivity was statistically significant across low, moderate, and high levels of nonjudgment. For positive affect, the standardized indirect associations were: $\beta = 0.04$, Boot SE = 0.01, 95% Boot CI [0.02, 0.07] at low levels of nonjudgment; $\beta = 0.04$, Boot SE = 0.01, 95% Boot CI [0.02, 0.06] at moderate levels; and $\beta = 0.03$, Boot SE = 0.01, 95% Boot CI [0.01, 0.06] at high levels. For negative affect, the corresponding standardized indirect associations were: $\beta = -0.03$, Boot SE = 0.01, 95% Boot CI [-0.05, -0.01] at low levels of nonjudgment; $\beta = -0.02$, Boot SE = 0.01, 95% Boot CI [-0.04, -0.01] at moderate levels; and $\beta = -0.02$, Boot SE = 0.01, 95% Boot CI [-0.04, -0.01] at high levels. As shown in Figure 4, higher acting with awareness was associated with lower appearance-based

social comparison, which was associated with greater body image positivity, and, in turn, with higher positive affect and lower negative affect. No other indirect associations were statistically significant (see Table A5).

3.2.3. Sensitivity Analysis

Sensitivity analyses were conducted by re-estimating all models with gender and daily social media use included as additional covariates. Due to the small number of participants identifying as genders other than male or female, analyses were restricted to participants identifying as male or female ($n = 332$). Gender (0 = male, 1 = female) was significantly associated with appearance-based social comparison in all models (depressive symptoms models: $\beta = 0.57$, $SE = 0.11$, 95% CI [0.35, 0.80]; mindfulness models: $\beta = 0.64$, $SE = 0.13$, 95% CI [0.39, 0.90]). Daily social media use was significantly associated with positive affect in the model that included mindfulness facets ($\beta = -0.10$, $SE = 0.05$, 95% CI [-0.20, -0.002]).

The inclusion of these covariates did not alter the overall pattern of findings or the substantive conclusions. Bootstrap analyses revealed a significant indirect association between depressive symptoms and positive affect through appearance-based social comparison and body image positivity ($\beta = -0.04$, Boot SE = 0.01, 95% Boot CI [-0.06, -0.02]). The indirect association between depressive symptoms and negative affect was similar in magnitude but no longer reached statistical significance after controlling for the additional covariates ($\beta = 0.01$, Boot SE = 0.01, 95% Boot CI [-0.00, 0.03]). The individual associations remained significant: depressive symptoms were positively associated with appearance-based social comparison ($\beta = 0.25$, $SE = 0.05$, 95% CI [0.14, 0.35]); appearance-based social comparison was negatively related to body image positivity ($\beta = -0.36$, $SE = 0.05$, 95% CI [-0.45, -0.25]); and body image positivity was positively associated with positive affect ($\beta = 0.35$, $SE = 0.06$, 95% CI [0.24, 0.47]). Although the association between body image positivity and negative affect was attenuated and no longer reached statistical significance, its direction remained consistent with the primary analysis ($\beta = -0.09$, $SE = 0.05$, 95% CI [-0.18, 0.00]).

In alignment with the primary analyses of mindfulness facets, the indices of moderated mediation were nonsignificant for both positive affect ($\beta = -0.004$, Boot SE = 0.005, 95% Boot CI [-0.02, 0.005]) and negative affect ($\beta = 0.003$, Boot SE = 0.004, 95% Boot CI [-0.004, 0.01]). The indirect association between acting with awareness and affective well-being, through appearance-based social comparison and body image positivity, remained statistically significant across all levels of nonjudgment. For positive affect, the standardized indirect associations were as follows: $\beta = 0.04$, Boot SE = 0.01, 95% Boot CI [0.02, 0.07] at low levels of nonjudgment; $\beta = 0.04$, Boot SE = 0.01, 95% Boot CI [0.02, 0.06] at moderate levels; and $\beta = 0.03$, Boot SE = 0.01, 95% Boot CI [0.01, 0.06] at high levels. For negative affect, the corresponding standardized indirect associations were: $\beta = -0.03$, Boot SE = 0.01, 95% Boot CI [-0.05, -0.01] at low levels of nonjudgment; $\beta = -0.02$, Boot SE = 0.01, 95% Boot CI [-0.04, -0.01] at moderate levels; and $\beta = -0.02$, Boot SE = 0.01, 95% Boot CI [-0.04, -0.01] at high levels.

4. Discussion

As social media increasingly facilitates self-evaluation and self-understanding through social comparison, it is important to identify factors that may increase or decrease vulnerability to its adverse effects. Guided by the DSM [27], the present study examined depressive symptoms and facets of mindfulness as individual difference factors associated with appearance-based social comparison, body image positivity, and affective well-being. Notably, the cross-sectional design precludes conclusions regarding causality or temporal directionality. Although the PROCESS analyses estimated indirect associations consistent with the proposed mediation models, these reflect statistical decompositions of observed

relationships rather than evidence of causal or temporal processes. Accordingly, the following discussion interprets the observed associations within the framework of the DSMM and prior research while acknowledging that alternative causal and temporal explanations remain plausible.

4.1. Appearance-Based Social Comparison & Outcomes

Building on prior research linking social comparison to body image and psychological well-being, the present study demonstrates that appearance-based social comparison is associated with lower body image positivity, which, in turn, is associated with reduced positive affect and increased negative affect. Within the DSMM framework, these findings suggest that the association between social media experiences and affective well-being may depend not only on exposure to appearance-related content but also on how individuals cognitively appraise and compare themselves to that content.

These findings are unsurprising given the appearance-oriented nature of the platforms most frequently used by participants. Platforms such as Snapchat, Instagram, and TikTok present users with a continuous stream of idealized and often digitally altered appearance-related content, which may reinforce unrealistic beauty standards. Thus, appearance-based social comparisons on these platforms are typically made against idealized rather than typical representations, potentially intensifying perceived discrepancies between actual and ideal self-image. Consistent with previous research, such comparisons have been associated with poorer body image and affective well-being. As the sample primarily consisted of young adults identifying as female, and sensitivity analyses indicated that female-identifying participants were more likely to engage in appearance-based social comparison, these findings may be particularly salient for young adults who identify as female.

4.2. Differential Susceptibility

The observed results are interpreted within the differential susceptibility framework. First, depressive symptoms were found to be indirectly associated with both positive and negative affect. Consistent with H1a and H1b, higher depressive symptoms were associated with increased appearance-based social comparison, which in turn was associated with lower body image positivity and diminished affective well-being. While the strong direct associations between depressive symptoms and affective well-being may partly reflect shared distress variance due to conceptual overlap between these constructs [61], the indirect associations suggest that appearance-based social comparison and body image positivity contribute to these relationships. The overall pattern of findings was largely unchanged after controlling for age, gender, and daily social media use. However, the indirect association between depressive symptoms and negative affect was modestly attenuated and no longer reached statistical significance.

Assuming the temporal ordering proposed by the DSMM accurately reflects underlying processes, the observed serial indirect associations support a poor-get-poorer perspective. Individuals with elevated depressive symptoms may be particularly susceptible to attending to, interpreting, and responding to social media content in ways that reinforce negative affective experiences. If these response patterns persist over time, they may contribute to the maintenance or worsening of depressive symptoms. Longitudinal research is necessary to directly assess this possibility.

Second, higher levels of acting with awareness were associated with reduced appearance-based social comparison and, indirectly, with more positive body image and affective well-being. This pattern of results remained robust after controlling for age, gender, and daily social media use. These findings support H2a and H2b and align with

the conceptualization of acting with awareness as the tendency to attend deliberately to present-moment experiences rather than operating on autopilot. Since social comparison is often considered to occur rapidly and automatically, individuals with higher levels of acting with awareness may be more likely to notice appearance-related content without reflexively engaging in self-evaluation. If these associations reflect the theorized causal processes, acting with awareness may reduce habitual appearance-based social comparison, thereby promoting more positive body image and affective well-being.

Contrary to H2c, the results did not support nonjudgment as a moderator of the association between appearance-based social comparison and body image positivity. Instead, nonjudgment was directly associated with greater body image positivity, suggesting that it may be more closely related to positive body-related self-evaluations than to moderating the relationship between appearance-based social comparison and body image positivity. In highly appearance-focused social media environments, comparison targets may become so salient that adopting a non-evaluative stance toward internal experiences is insufficient to counteract the negative association between appearance-based social comparison and body image positivity. These findings suggest that distinct facets of mindfulness may be associated with different aspects of psychological functioning.

4.3. Theoretical Implications

The primary contribution of the present study is the comprehensive application of the DSMM through the examination of depressive symptoms and specific facets of dispositional mindfulness as susceptibility factors related to appearance-based social comparison, body image positivity, and affective well-being. This approach extends the existing literature on appearance-based social comparison and body image by integrating these constructs within a single, theoretically informed model. By conceptualizing depressive symptoms as an individual susceptibility factor, rather than solely as an outcome of social media use, the study broadens the understanding of how pre-existing psychological characteristics may shape responses to appearance-related social media content. Additionally, the examination of mindfulness at the facet level, rather than as a global construct, highlights the importance of considering specific facets when investigating individual differences in social media-related evaluative processes. Distinct patterns of association emerged among the susceptibility factors examined: higher depressive symptoms and lower acting with awareness were associated with greater appearance-based social comparison, while higher nonjudgment was associated with greater body image positivity. Together, these findings provide empirical support for the application of the DSMM in understanding how individual susceptibility factors may be associated with responses to appearance-related social media, including appearance-based social comparison, body image positivity, and affective well-being.

4.4. Future Research

The present findings have implications for research on interventions that promote healthier social media engagement. Notably, depressive symptoms and acting with awareness were associated with appearance-based social comparison. Nonjudgment did not appear to attenuate the association between appearance-based social comparison and body image positivity. If these associations reflect the causal processes proposed by theory, interventions that reduce habitual appearance-based social comparison or strengthen acting with awareness may be more effective than interventions aimed primarily at addressing the consequences of comparison. Further experimental and longitudinal research is required to evaluate this possibility.

Cognitive reappraisal, an antecedent-focused emotion regulation strategy that involves reinterpreting situations to alter their emotional impact, represents a promising direction for future intervention research. In social media contexts, reappraisal may enable individuals to challenge negative interpretations of appearance-related content before these appraisals are internalized as self-relevant deficiencies [62]. Supporting the potential utility of this approach, Andrade and colleagues [63] found that participants who followed a brief reappraisal intervention reported higher state self-esteem on days with greater social savoring during social media use. These strategies may be particularly promising for individuals experiencing elevated depressive symptoms, given the associations between depression, negative self-schemas, and maladaptive information processing.

The findings also point to mindfulness-based approaches as a promising direction for future intervention research. Interventions designed to strengthen present-moment attentional awareness [64] may foster increased recognition of social media engagement patterns and reduce the likelihood of automatic appearance-based social comparison. Such interventions could enable individuals to recognize and disengage from appearance-based social comparisons before they contribute to negative self-evaluations. Additional experimental studies are needed to determine whether enhancing acting with awareness reduces or prevents appearance-based social comparison and subsequently promotes more positive affective well-being.

The direct association between depressive symptoms and affective well-being remained significant after accounting for the hypothesized indirect associations. This finding suggests that additional factors may contribute to the association between depressive symptoms and affective well-being in appearance-related social media contexts, warranting further investigation. One such factor is self-objectification, defined as the tendency to view oneself from an appearance-focused, evaluative, observer-like perspective [65]. Social media frequently presents idealized self-presentations, which may encourage users to evaluate themselves through an objectifying lens [66]. Self-objectification has also been proposed to facilitate the internalization of appearance ideals, potentially intensifying the negative associations between appearance-based social comparison and psychological well-being [67]. Future research could extend the present framework by examining self-objectification alongside appearance-based social comparison as an additional factor underlying the association between depressive symptoms and affective well-being in appearance-related social media contexts.

4.5. Limitations

Despite the contributions of the present study, the findings should be considered in light of several limitations. First, the study's methodological characteristics limit the conclusions that can be drawn about the nature of the observed associations. Although the findings align with theoretical frameworks and prior research, the cross-sectional design prevents determination of directionality and causality. The PROCESS analyses, which estimated indirect associations consistent with the proposed theoretical model, reflect statistical relationships rather than evidence of causal processes. It remains plausible that the relationships among the study's variables are bidirectional. For instance, engaging in appearance-based social comparison may increase depressive symptoms over time [38], and persistent appearance-based social comparison during social media use may interfere with an individual's capacity for mindfulness. Furthermore, because all variables were measured using self-report instruments at a single time point, the observed associations may be affected by common-method variance, including shared response tendencies. Finally, the estimated moderation effect was small ($\beta = 0.04$) and did not reach statistical significance, suggesting that any moderating role of nonjudgment is likely minimal. Nevertheless,

because interaction effects often require larger samples for precise estimation, the possibility of a small moderating effect cannot be excluded. Overall, future research should utilize longitudinal, experimental, and multi-method designs (e.g., behavioral, observational, or ecological momentary assessment approaches) with larger samples to clarify temporal ordering, reduce common-method bias, evaluate potential bidirectional associations, and determine the presence of small moderation effects.

Second, the generalizability of these findings may be limited by the sample's demographic characteristics. The participants were primarily young adults who identified as female and did not identify as members of visible minority groups. Accordingly, the findings may not generalize to men, adolescents, older adults, gender-diverse individuals, or populations with greater racial and ethnic diversity. The inclusion of gender-diverse participants in body image research remains limited. Yet, emerging evidence suggests that gender identity may uniquely influence the internalization of appearance standards and engagement in appearance-based social comparison [11,68]. In addition, as participants were recruited from a university research participation pool, the findings may not generalize to community or clinical populations. Consequently, the generalizability of the observed associations across diverse populations is uncertain and requires further investigation.

5. Conclusions

The present findings suggest that individual susceptibility factors may be important considerations when investigating the associations among appearance-based social comparison, body image positivity, and affective well-being. Depressive symptoms were associated with greater appearance-based social comparison, whereas specific facets of mindfulness were differentially associated with appearance-based social comparison and body image positivity. Acting with awareness and nonjudgment were associated with lower appearance-based social comparison and higher body image positivity, respectively. Collectively, the findings suggest that the Differential Susceptibility to Media Effects Model provides a useful framework for understanding individual differences in psychological responses to appearance-related social media content. If future longitudinal and experimental research supports the hypothesized temporal and directional relationships, interventions focused on reducing engagement in appearance-based social comparison and strengthening acting with awareness could represent promising avenues for promoting healthier body image and affective well-being within the context of social media use.

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Abbreviations

The following abbreviation is used in this manuscript:

DSMM Differential Susceptibility to Media Effects Model

Appendix A

The following presents descriptive characteristics of participants' social media use.

Appendix A.1

Participants indicated all social media platforms they used several times per week by selecting from a predefined list. Table A1 presents the frequency and percentage of participants who reported regular use of each platform. Participants who selected "Other" reported Discord ($n = 10$), Reddit ($n = 6$), Pinterest ($n = 5$), Threads ($n = 3$), VSCO ($n = 2$), Red Note/Xiaohongshu ($n = 2$), and Twitch ($n = 1$).

Table A1. Social Media Platforms Used Several Times per Week.

Platform	<i>n</i>	%
Facebook	84	24.6
Instagram	317	93.0
Snapchat	227	66.6
TikTok	275	80.6
WeChat	1	0.3
WhatsApp	90	26.4
X (Twitter)	35	10.3
YouTube	219	64.2
Other	32	9.4

Appendix A.2

Participants reported how frequently they used social media overall. Table A2 presents the frequency and percentage of participants selecting each response option.

Table A2. Overall Frequency of Social Media Use.

Response Option	<i>n</i>	%
Almost constantly	112	32.8
Several times a day	212	62.2
About once a day	10	2.9
Several times a week	4	1.2
Once or twice a week	1	0.3
Less than once a week	2	0.6

Appendix A.3

Participants estimated the amount of time they spent on social media on an average day. Table A3 presents the frequency and percentage of participants selecting each response option.

Table A3. Estimated Daily Time Spent on Social Media.

Response Option	<i>n</i>	%
Less than 1 h	7	2.1
1 to 2 h	49	14.4
2 to 3 h	65	19.1
3 to 4 h	76	22.3
4 to 5 h	53	15.5
5 to 6 h	39	11.4
6 to 7 h	34	10.0
7 to 8 h	12	3.5
More than 8 h	6	1.8

Appendix B

The following presents additional results from the serial mediation and moderated mediation analyses used to test the study hypotheses.

Appendix B.1

Depressive symptoms were specified as the independent variable, appearance-based social comparison as the first mediator, body image positivity as the second mediator, and either positive affect or negative affect as the outcome variable.

Table A4. Indirect Effects of Depressive Symptoms on Positive and Negative Affect.

Indirect Effects	β	Boot SE	95% Boot CI
Depressive Symptoms → Appearance Comparison → PA	0.002	0.02	[−0.03, 0.03]
Depressive Symptoms → Body Image → PA	−0.10	0.03	[−0.16, −0.06]
Depressive Symptoms → Appearance Comparison → Body Image → PA	−0.03	0.01	[−0.05, −0.02]
Depressive Symptoms → Appearance Comparison → NA	0.004	0.01	[−0.02, 0.03]
Depressive Symptoms → Body Image → NA	0.03	0.01	[0.004, 0.06]
Depressive Symptoms → Appearance Comparison → Body Image → NA	0.01	0.01	[0.001, 0.02]

Note. β = standardized indirect effect; → = directional sequence of variables in the indirect effect; Boot SE = bootstrap standard error; Boot CI = bootstrap confidence interval; Appearance Comparison = appearance-based social comparison; Body Image = body image positivity; PA = positive affect; NA = negative affect. Indirect effects are statistically significant when the 95% bootstrap confidence interval does not include zero.

Appendix B.2

Table A5 presents the unconditional indirect effects estimated from the moderated mediation model. These indirect effects do not vary as a function of nonjudgment. Acting with awareness was specified as the independent variable, appearance-based social comparison as the first mediator, body image positivity as the second mediator, and either positive affect or negative affect as the outcome variable. None of the unconditional indirect effects were statistically significant.

Table A5. Indirect Effects of Acting with Awareness on Positive and Negative Affect.

Indirect Effects	β	Boot SE	95% Boot CI
Acting with Awareness → Appearance Comparison → PA	−0.001	0.02	[−0.03, 0.03]
Acting with Awareness → Body Image → PA	0.01	0.02	[−0.03, 0.06]
Acting with Awareness → Appearance Comparison → NA	−0.01	0.02	[−0.04, 0.02]
Acting with Awareness → Body Image → NA	−0.01	0.01	[−0.04, 0.02]

Note. β = standardized indirect effect; → = directional sequence of variables in the indirect effect; Boot SE = bootstrap standard error; Boot CI = bootstrap confidence interval; Appearance Comparison = appearance-based social comparison; Body Image = body image positivity; PA = positive affect; NA = negative affect. Indirect effects are unconditional and do not vary as a function of nonjudgment. Indirect effects are statistically significant when the 95% bootstrap confidence interval does not include zero.

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