

Appearance-Enhancing Beauty Filter Use, Social-Media Appearance Comparison, and Body Appreciation among Thai Adolescents

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Abstract

Appearance-enhancing beauty filters create personalized idealized images that may be associated with adolescents' appearance comparison and body image. This study investigates the cross-sectional relationships between beauty-filter use, social-media appearance comparison, and body appreciation. A dataset representing 432 analytically valid adolescent cases aged 13–18 years was analyzed. Beauty Filter Use, Appearance Comparison, and Body Appreciation were scored on 1–5 scales. In the data, beauty-filter use was positively correlated with appearance comparison ($r = 0.51$) and negatively correlated with body appreciation ($r = -0.50$); appearance comparison was negatively correlated with body appreciation ($r = -0.64$). In an adjusted regression, both beauty-filter use ($B = -0.23, p < .001$) and appearance comparison ($B = -0.53, p < .001$) were associated with lower body appreciation. A secondary bootstrap model yielded an indirect association of -0.26 , 95% CI $[-0.33, -0.21]$.

Keywords: adolescents; beauty filters; appearance comparison; body appreciation; social media

1. Introduction

Visually oriented social media provide adolescents with frequent opportunities to view, edit, and compare physical appearance. Appearance-enhancing filters are especially relevant because they can generate an idealized version of the user's own face or body rather than merely exposing the user to idealized images of others. Recent filter-specific research has reported associations between appearance-enhancing filter use and body-image concerns, while experimental work suggests that some beauty-filter exposures can influence immediate appearance-related responses (Caravelli et al., 2025; Schroeder & Behm-Morawitz, 2025). More recent experimental evidence also indicates that effects can depend on the specific filter and viewing condition, reinforcing the need to avoid treating all filters as psychologically equivalent.

The present framework is informed by the Tripartite Influence Model and social-comparison processes. Appearance-focused social-media activity is associated with comparison and body-image variables at the between-person level, but longitudinal evidence shows that these associations do not automatically imply within-person causal change over time (Kvardova et al., 2025).

2. Research Questions and Hypotheses

H1: Greater beauty-filter use will be positively associated with greater appearance comparison.

H2: Greater beauty-filter use will be negatively associated with body appreciation.

H3: Greater appearance comparison will be negatively associated with body appreciation.

Secondary analysis: Appearance comparison will be examined as a cross-sectional indirect statistical pathway between beauty-filter use and body appreciation; this is not interpreted as causal mediation.

3. Method

3.1 Design and Participants

The empirical design is cross-sectional and correlational. A total of 450 questionnaire records were collected. The quality-control workflow excluded 18 records: four for absent guardian-consent status, three for absent adolescent assent, three for age outside the 13–18-year range, four for a failed attention check, and four for implausibly short completion time. The resulting analytic sample contained 432 cases.

3.2 Measures

Beauty Filter Use was represented by six behavior items rated from 1 (never) to 5 (very often). *Appearance Comparison* was represented by eight items assessing comparison of face, body, and overall appearance in social-media contexts. *Body Appreciation* was represented by eight items assessing acceptance, respect, and positive orientation toward one's body.

3.3 Statistical Analysis

Composite scores were calculated as item means. Internal consistency was summarized using Cronbach's alpha. Pearson correlations tested H1–H3. Multiple linear regression predicted Body Appreciation from Beauty Filter Use and Appearance Comparison while adjusting for age, gender, and daily social-media hours. A secondary indirect-association analysis estimated paths from Beauty Filter Use to Appearance Comparison and from Appearance Comparison to Body Appreciation using 5,000 bootstrap resamples.

4. Results

4.1 Participant Characteristics

Characteristic	Value
Analytic <i>N</i>	432
Age, years	$M = 15.76$, $SD = 1.60$
Female	238 (55.1%)
Male	183 (42.4%)
Other / prefer not to say	11 (2.5%)
Daily social-media use	$M = 3.13$ h, $SD = 1.81$

4.2 Descriptive Statistics and Reliability

Construct	M	SD	α
Beauty Filter Use	3.02	1.08	0.89
Appearance Comparison	3.16	1.11	0.93
Body Appreciation	2.81	1.11	0.93

The item sets showed high internal consistency.

4.3 Correlations

Variables	1	2	3
1. Beauty Filter Use	—	0.51***	-0.50***
2. Appearance Comparison		—	-0.64***
3. Body Appreciation			—
*** $p < .001$.			

H1–H3 were supported. Beauty Filter Use was positively associated with Appearance Comparison, $r = 0.51$, $p < .001$. Beauty Filter Use was negatively associated with Body Appreciation, $r = -0.50$, $p < .001$. Appearance Comparison was negatively associated with Body Appreciation, $r = -0.64$, $p < .001$.

4.4 Adjusted Regression Predicting Body Appreciation

Predictor	B	SE	95% CI	p
Beauty Filter Use	-0.23	0.04	[-0.32, -0.14]	< .001
Appearance Comparison	-0.53	0.04	[-0.61, -0.45]	< .001
Age	0.00	0.03	[-0.04, 0.05]	0.862
Daily social-media hours	-0.02	0.02	[-0.06, 0.03]	0.412
Male vs Female	-0.16	0.08	[-0.32, 0.00]	0.051
Other/prefer not vs Female	-0.56	0.26	[-1.06, -0.06]	0.028

The regression model explained 46.1% of the variance in Body Appreciation ($R^2 = 0.461$, adjusted $R^2 = 0.454$). Controlling for age, gender, and daily social-media hours, Beauty Filter

Use remained negatively associated with Body Appreciation ($B = -0.23$, 95% CI $[-0.32, -0.14]$, $p < .001$), and Appearance Comparison showed a larger negative association ($B = -0.53$, 95% CI $[-0.61, -0.45]$, $p < .001$).

The gender coefficient for the very small 'Other / prefer not to say' category should not be substantively interpreted because the cell is small.

4.5 Secondary Cross-Sectional Indirect Association

Path	Estimate
a: Beauty Filter Use $\rightarrow$ Appearance Comparison	0.50
b: Appearance Comparison $\rightarrow$ Body Appreciation	-0.53
Total association c	-0.49
Direct association c'	-0.23
Bootstrap indirect association $a \times b$	-0.26
95% bootstrap CI	$[-0.33, -0.21]$

The bootstrap distribution produced an indirect association of -0.26, 95% CI $[-0.33, -0.21]$. Because the interval did not include zero, the data are compatible with the proposed indirect statistical model. This result does not establish temporal or causal mediation.

5. Discussion

The results illustrate the pattern that supports the study's three primary hypotheses: more frequent appearance-enhancing filter use covaried with greater appearance comparison and lower body appreciation, while appearance comparison showed the strongest negative association with body appreciation. This pattern is conceptually consistent with filter-specific studies reporting relationships between filter use and body-image concerns (Caravelli et al., 2025; Ganson et al., 2024) and with experimental evidence indicating stronger social-comparison processes when individuals use a slimming filter on themselves (Schroeder & Behm-Morawitz, 2025).

The indirect-association result should be interpreted especially cautiously. Cross-sectional data cannot establish that filter use occurred before comparison or that comparison subsequently changed body appreciation. Longitudinal adolescent research has found substantial between-person correlations among appearance activity, comparison, and body-image variables without consistent evidence that increases in appearance activity caused later within-person increases in dissatisfaction (Kvardova et al., 2025).

However, several alternative explanations remain plausible. Adolescents with lower body appreciation may be more motivated to edit their appearance; internalization of beauty ideals, peer norms, self-esteem, mood, or other unmeasured factors may influence both filter use and body image; and reciprocal processes may operate over time. A significant cross-sectional

indirect effect would therefore justify further longitudinal or experimental research rather than an intervention claim.

5.1 Implications

The principal value of this analysis is highlighting the interrelations between appearance-enhancing filter use, appearance comparison, and body appreciation. The findings suggest that addressing beauty-filter use and appearance comparison could be relevant in discussions of adolescent body image. However, longitudinal designs are needed before clinical interventions or strict behavioral recommendations can be established.

5.2 Limitations

This study has limitations, including the use of cross-sectional self-report data, potential common-method variance, school-based sampling, residual confounding, and measurement adaptation. Furthermore, unmeasured psychological factors might better explain the observed correlations.

6. Conclusion

Using a dataset of 432 analytically valid cases, this paper demonstrates the relationships between appearance-enhancing beauty-filter use, social-media appearance comparison, and body appreciation among adolescents. The results support H1–H3 and produce a non-zero secondary indirect association, underscoring the potential impacts of beauty-filter use and social comparison on adolescent body appreciation. Future research should build on these findings with longitudinal or experimental designs to further establish causality.

References

- Caravelli, N. S., Henriksen, H. A., & Blashill, A. J. (2025). Associations between TikTok facial filter use and body image variables. *Body Image*, 53, 101877. <https://doi.org/10.1016/j.bodyim.2025.101877>
- Choukas-Bradley, S., Nesi, J., Widman, L., & Galla, B. M. (2020). The Appearance-Related Social Media Consciousness Scale: Development and validation with adolescents. *Body Image*, 33, 164–174. <https://doi.org/10.1016/j.bodyim.2020.02.017>
- Digennaro, S., & Tescione, A. (2024). Scrolls and self-perception, navigating the link between social networks and body dissatisfaction in preadolescents and adolescents: A systematic review. *Frontiers in Education*, 9, 1390583. <https://doi.org/10.3389/educ.2024.1390583>
- Ganson, K. T., Testa, A., Rodgers, R. F., & Nagata, J. M. (2024). Use of photo filters is associated with muscle dysmorphia symptomatology among adolescents and young adults. *Body Image*, 50, 101750. <https://doi.org/10.1016/j.bodyim.2024.101750>
- Kvardova, N., Machackova, H., Maes, C., & Vandenbosch, L. (2025). Navigating beauty standards on social media: Impact of appearance activity on adolescents' body dissatisfaction. *Journal of Youth and Adolescence*, 54, 1999–2018. <https://doi.org/10.1007/s10964-025-02159-y>
- Schaefer, L. M., & Thompson, J. K. (2014). The development and validation of the Physical Appearance Comparison Scale-Revised (PACS-R). *Eating Behaviors*, 15(2), 209–217. <https://doi.org/10.1016/j.eatbeh.2014.01.001>

- Schroeder, M., & Behm-Morawitz, E. (2025). Digitally curated beauty: The impact of slimming beauty filters on body image, weight loss desire, self-objectification, and anti-fat attitudes. *Computers in Human Behavior*, 165, 108519.
<https://doi.org/10.1016/j.chb.2024.108519>
- Tylka, T. L., & Wood-Barcalow, N. L. (2015). The Body Appreciation Scale-2: Item refinement and psychometric evaluation. *Body Image*, 12, 53–67.
<https://doi.org/10.1016/j.bodyim.2014.09.006>