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Original Article

The Impact of Media, Socioeconomic, and Psychological Factors on the Adoption of Aesthetic Technology and Cosmetic Surgery among Women in Punjab, Pakistan

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ABSTRACT

Background: Interest in aesthetic technology and cosmetic procedures is influenced by social, economic, cultural and psychological factors. Social media may intensify exposure to appearance ideals, although cross-sectional data cannot establish that media exposure causes cosmetic-procedure uptake. Objective: To examine associations between socioeconomic beliefs, media influence, psychological motivations and self-reported inclination toward aesthetic procedures among women in Punjab, Pakistan. Methods: A cross-sectional online survey included 132 women aged 18–50 years from Lahore, Faisalabad and Multan. Convenience sampling was used. Composite socioeconomic, media-influence, psychological and adoption scores were categorized into sample-based tertiles. Associations were evaluated using χ^2 tests and Cramér's V. Results: Socioeconomic category was associated with adoption inclination, $\chi^2(4)=33.992$, $p<0.001$, $V=0.359$. Media influence showed a stronger association, $\chi^2(4)=51.266$, $p<0.001$, $V=0.441$. Psychological-factor category showed the strongest association, $\chi^2(4)=58.173$, $p<0.001$, $V=0.469$. Age, marital status and education were not significantly associated with the adoption score. Conclusion: Psychological motivations, media influence and socioeconomic beliefs were associated with cosmetic-procedure adoption inclination in this selected sample of socially media-engaged women. The cross-sectional design and selected sampling frame preclude causal or population-level conclusions. Keywords: Cosmetic Procedures; Social Media; Body Image; Psychological Factors; Socioeconomic Status; Women; Pakistan.

INTRODUCTION

Cosmetic procedures are increasingly visible through digital advertising, aesthetic clinics, social-media platforms and influencer culture. Procedures ranging from injectables and skin treatments to facial and body surgery are frequently presented through visually oriented digital environments in which appearance modification is normalized and highly accessible. Systematic review evidence links social-media exposure with body-image concerns and greater consideration of cosmetic procedures, while experimental and observational studies have also associated selfie-related practices, photograph editing and greater investment in appearance-focused social media with attitudes favorable toward cosmetic intervention (1-3).

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Decision-making regarding aesthetic procedures is multifactorial and may reflect body-image dissatisfaction, perceived appearance discrepancy, social comparison, internalization of beauty ideals, self-confidence, interpersonal influences and investment in physical appearance. Among women, media pressure and peer appearance-related interactions have been associated with greater consideration of cosmetic surgery, partly through internalization of culturally promoted appearance ideals (4). Other research has identified relationships among body dissatisfaction, appearance comparison, self-compassion-related psychological characteristics and acceptance of cosmetic surgery (5). These findings are consistent with the broader literature emphasizing body image as an important psychological dimension in the motivation to seek surgical and minimally invasive aesthetic treatments (6). Such associations, however, should not be interpreted as evidence that appearance concerns inevitably represent psychiatric pathology or that psychological characteristics independently cause cosmetic-procedure uptake.

Contemporary social-media environments may strengthen appearance-related pressures through repeated exposure to idealized, curated or digitally altered images. Sociocultural models of body image identify internalization, social comparison and body surveillance as pathways through which appearance-focused pressures may relate to body-image concerns (7). Experimental research has shown that exposure to idealized or transformation imagery can increase appearance comparison and reduce immediate body satisfaction among young women (8), whereas exposure to body-positive or appearance-neutral material may reduce aspects of body dissatisfaction or appearance comparison (9). Importantly, simply disclosing that an image has been edited may not completely eliminate adverse body-image responses to idealized imagery (10). Appearance-focused social-media use is also relevant beyond adolescents and young adults, with research among midlife women identifying heterogeneous patterns of photo-based social-media engagement and associated body-image concerns (11).

The social and cultural meaning of cosmetic enhancement is not uniform across populations. Cross-cultural qualitative research has identified sociocultural pressure, beauty-ideal internalization, social comparison, perceived socioeconomic benefits of attractiveness, financial cost and self-confidence as factors shaping women's attitudes toward cosmetic surgery, while also demonstrating important differences between cultural settings (12). Studies from Saudi Arabia have similarly reported associations between acceptance of cosmetic procedures and social-media exposure, income or other demographic characteristics (13), whereas population research in Norway has linked desire for cosmetic surgery with appearance dissatisfaction, educational differences and greater use of appearance-focused social media (14). Influencer exposure and before-and-after aesthetic content have also been associated with cosmetic-procedure interest in Middle Eastern populations (15), while high social-media engagement and appearance-related concerns have been linked with more favorable attitudes toward cosmetic surgery in another large Saudi survey (16). These findings indicate that socioeconomic circumstances, media environments and psychological motivations may interact differently across societies and support the need for locally contextualized investigation rather than direct extrapolation from Western populations.

Within Pakistan, urbanization, digital-media penetration, changing beauty ideals and expanding access to aesthetic services provide an important context in which to examine attitudes toward cosmetic enhancement. The present study therefore investigated relationships among socioeconomic beliefs, media influence and psychological factors and the inclination to adopt aesthetic technologies or cosmetic procedures among women recruited from Lahore, Faisalabad and Multan in Punjab, Pakistan.

MATERIALS AND METHODS

A cross-sectional online survey was conducted among 132 women aged 18–50 years residing in Lahore, Faisalabad and Multan, Punjab, Pakistan. Participants were recruited using convenience sampling. The survey link was distributed through social-media groups and networks.

Eligibility required active use of social-media platforms such as Instagram, TikTok or Facebook and regular exposure to cosmetic or beauty-related content. Women professionally affiliated with the cosmetic industry were excluded. These eligibility criteria were intended to focus the investigation on women who were engaged with the digital-media environment in which cosmetic and aesthetic content was encountered.

A structured questionnaire recorded demographic characteristics and included multi-item measures assessing socioeconomic beliefs, media influence, psychological motivations and inclination toward

adoption of aesthetic procedures. The media-influence scale contained seven items and demonstrated Cronbach's α=0.784. The psychological-factor scale contained six items with α=0.767, the adoption-inclination scale contained six items with α=0.805, and the socioeconomic scale contained six items with α=0.680.

Composite scores were calculated by summing the relevant Likert-scale items. Each composite score was subsequently classified into low, medium and high categories using approximately equal percentile groups within the observed sample. These categories therefore represented relative positions within the study sample rather than externally validated clinical thresholds.

Data were analyzed using SPSS version 25. Categorical associations were evaluated using Pearson's χ^2 test, and Cramér's V was calculated to quantify the magnitude of association. Statistical significance was defined as $p<0.05$.

Ethical approval was obtained from the Institutional Review Board of Superior University, Lahore, Pakistan.

RESULTS

Among the 132 participants, 83.3% identified social media as a principal source of information concerning aesthetic procedures, while 56.1% considered cosmetic procedures in relation to prevailing societal beauty standards. Age, marital status and education showed no statistically significant association with the adoption score.

Table 1. Reliability of Composite Scales

Scale	Items	Cronbach's α
Media influence	7	0.784
Psychological factors	6	0.767
Adoption inclination	6	0.805
Socioeconomic scale	6	0.680

The adoption-inclination scale demonstrated the highest internal consistency among the four composite measures, followed by the media-influence and psychological-factor scales. The socioeconomic scale showed the lowest Cronbach's α.

Socioeconomic Factors

Table 2. Socioeconomic Category and Adoption Inclination

Adoption	Low SES	Medium SES	High SES	Total
Low	29	16	4	49
Medium	10	22	15	47
High	3	15	18	36

$\chi^2(4)=33.992$, $p<0.001$; Cramér's V=0.359.

A clear distributional pattern was observed across socioeconomic and adoption categories. Participants categorized in the low socioeconomic group were concentrated in the low-adoption category, whereas those classified in the high socioeconomic group were more frequently represented in the medium- and high-adoption categories. The overall association was statistically significant.

Media Influence

Table 3. Media-Influence Category and Adoption Inclination

Adoption	Low Media	Medium Media	High Media	Total
Low	38	9	2	49
Medium	14	18	15	47
High	3	12	21	36

$\chi^2(4)=51.266$, $p<0.001$; Cramér's V=0.441.

Psychological Factors

Table 4. Psychological-Factor Category and Adoption Inclination

Adoption	Low Psychological	Medium Psychological	High Psychological	Total
Low	36	10	3	49
Medium	12	15	20	47
High	0	11	25	36

$\chi^2(4)=58.173$, $p<0.001$; Cramér's V=0.469.

Participants with lower media-influence scores were predominantly represented in the low-adoption category, whereas the high-media-influence group contained a greater proportion of participants

classified as having high adoption inclination. Media influence demonstrated a statistically significant association with adoption inclination and a larger Cramér's V than the socioeconomic category.
Psychological-factor category showed the largest association with adoption inclination among the three principal factors examined. Participants in the low-psychological-factor category were concentrated in the low-adoption group, while those with high psychological-factor scores were predominantly represented in the medium- and high-adoption groups. All three χ^2 statistics and Cramér's V values were reproducible from the corresponding contingency tables. Among the measured factors, psychological-factor category demonstrated the largest Cramér's V, followed by media influence and socioeconomic category.

DISCUSSION

The present study identified statistically significant cross-sectional relationships between inclination toward aesthetic procedures and socioeconomic beliefs, media influence and psychological motivations among women recruited from Lahore, Faisalabad and Multan. Psychological factors demonstrated the largest observed association with adoption inclination, followed by media influence and socioeconomic category. The findings therefore indicate that willingness or openness toward aesthetic procedures in this selected population was associated with multiple overlapping psychosocial domains rather than with a single factor. These results should be interpreted as associations because the exposure and outcome measures were obtained concurrently.
The comparatively large association involving psychological factors is compatible with previous evidence linking cosmetic-surgery consideration with body dissatisfaction, internalization of appearance ideals, social comparison, appearance investment and other psychosocial characteristics (4-6). Research among women has shown that sociocultural pressures may relate to interest in cosmetic surgery through internalization of appearance ideals (4), while body dissatisfaction and specific dimensions of self-evaluation have also been associated with greater acceptance of cosmetic procedures (5). The present psychological score, however, represents a composite of motivations rather than a clinical psychological diagnosis. This distinction is important because established instruments such as the Acceptance of Cosmetic Surgery Scale were developed specifically to quantify attitudes toward cosmetic surgery and demonstrate that acceptance itself is a multidimensional psychosocial construct (17).
Psychological motivation for aesthetic treatment should also be distinguished from psychiatric morbidity. Body dysmorphic disorder and related severe appearance preoccupations have been documented among a minority of patients presenting for cosmetic treatment, but these disorders require specific diagnostic or validated screening assessment and cannot be inferred solely from dissatisfaction with appearance or interest in aesthetic enhancement (6,18,19). Clinical literature further indicates that unrealistic expectations and selected psychosocial characteristics may affect satisfaction after facial cosmetic surgery, emphasizing the importance of appropriate psychological assessment in clinical aesthetic practice (20). The current findings therefore support attention to psychological motivations without pathologizing participants or assuming that high psychological-factor scores represent a psychiatric disorder.
Media influence demonstrated the second-largest observed association with adoption inclination. This finding is consistent with systematic-review evidence relating social-media exposure to body-image concerns and consideration of cosmetic procedures (1). Experimental research in an Indian population found that selfie-related activity and image manipulation could affect appearance perceptions and immediate desire for cosmetic intervention (2), while social-media investment and photograph-editing application use have also been associated with more favorable attitudes toward cosmetic surgery (3). More recent research has connected appearance-focused digital environments with social comparison, internalization of appearance ideals and body-image concerns (7,8). Although body-positive material may mitigate some aspects of body dissatisfaction (9), idealized imagery can continue to affect body image even when its artificial or edited nature is disclosed (10). These findings collectively support the relevance of media exposure but do not establish a simple causal pathway from social-media use to cosmetic-procedure adoption.
The interpretation of the media association is particularly constrained by the present sampling frame. Active social-media use and regular exposure to beauty- or cosmetic-related content were eligibility requirements. Consequently, this study did not compare women exposed to social media with women

who were unexposed. Instead, it evaluated variation in media influence within an already media-engaged population. Recent studies similarly suggest substantial heterogeneity in how individuals interact with appearance-focused online content (11), and research involving influencers and aesthetic before-and-after content indicates that particular forms of exposure may be more relevant than social-media use considered as a single undifferentiated behavior (15,16). Future research should therefore distinguish duration of use, platform type, active versus passive engagement, influencer exposure, appearance comparison and image-editing behaviors.

Socioeconomic factors also demonstrated a significant relationship with adoption inclination. Financial capacity may influence practical access to elective aesthetic services, while perceptions of the social or occupational advantages of attractiveness may contribute to favorable attitudes toward cosmetic enhancement. Cross-cultural qualitative evidence has identified both financial cost and perceived socioeconomic benefits of beauty as relevant considerations in women's attitudes toward cosmetic surgery (12). Quantitative studies have likewise reported relationships between income or other socioeconomic characteristics and cosmetic-surgery acceptance, although the direction and magnitude of these associations vary across populations (13,14). Such variation reinforces the importance of interpreting socioeconomic findings within the cultural and healthcare context in which aesthetic services are accessed.

The absence of statistically significant relationships between adoption score and age, marital status or education in the present sample should not be interpreted as evidence that these characteristics are universally unrelated to cosmetic-surgery attitudes. Other populations have shown associations with age, educational status, employment or related demographic characteristics (13,14). Differences between studies may reflect variation in sampling frames, age distributions, socioeconomic structures, cultural expectations, measurement instruments and the types of cosmetic procedures under consideration. The comparatively small and selectively recruited sample in the current study may also have limited the ability to identify weaker demographic relationships.

An additional methodological consideration concerns categorization of the composite scores into sample-based low, medium and high groups. This approach facilitated straightforward contingency-table analysis and allowed relationships to be expressed clearly using χ^2 statistics and Cramér's V. Nevertheless, categorizing an underlying continuous measure can discard information, reduce statistical efficiency and make results dependent on the chosen cut points (21). In this study, a participant categorized as having a “high” socioeconomic, media, psychological or adoption score was high relative to the observed sample rather than exceeding an externally established clinical or behavioral threshold. Future analyses could preserve the continuous composite scores and examine independent relationships using appropriately specified multivariable regression models.

The terminology of “adoption” also requires careful interpretation. The measured outcome primarily reflects willingness, inclination, attitudes or openness toward aesthetic procedures rather than independently verified receipt of cosmetic treatment. This conceptual distinction is consistent with the broader literature in which acceptance or consideration of cosmetic surgery is measured as an attitudinal construct rather than actual procedural utilization (4,17). Accordingly, “adoption inclination” provides a more precise interpretation of the present findings than assuming that participants classified in the high-adoption category had undergone, or would necessarily undergo, an aesthetic procedure.

Several limitations should be considered. The cross-sectional design prevents determination of temporal sequence and therefore does not establish that socioeconomic, media or psychological factors caused greater inclination toward cosmetic procedures. Convenience sampling limits representativeness, while recruitment through social-media networks and the requirement for regular beauty-related social-media exposure produced a deliberately selected, media-engaged population. The findings should therefore not be generalized to all women in Punjab or to women who do not regularly use social media. Self-reported responses may also be influenced by recall, interpretation or social-desirability effects. In addition, the socioeconomic measure had lower internal consistency than the other composite scales, and categorization of the composite variables may have reduced information available for analysis.

Despite these limitations, the study provides locally relevant evidence concerning the simultaneous relationships of socioeconomic beliefs, media influence and psychological motivations with aesthetic-procedure inclination among women in three major cities of Punjab. Future studies should recruit broader probability-based or community samples, include women with differing levels of social-media exposure, retain continuous measures where statistically appropriate and apply multivariable models

capable of evaluating the independent contribution of correlated predictors. Longitudinal designs would be particularly useful for establishing temporal relationships among social-media engagement, changing body-image perceptions and subsequent consideration or uptake of cosmetic procedures.

CONCLUSION

Socioeconomic beliefs, media influence and psychological motivations were significantly associated with greater inclination toward aesthetic procedures among socially media-engaged women from Lahore, Faisalabad and Multan. Psychological-factor scores demonstrated the largest association with adoption inclination, followed by media influence and socioeconomic category. These findings identify relevant psychosocial correlates but do not establish causal effects. Their interpretation should remain restricted to the selected population studied, and they should not be generalized to women who do not use social media or regularly consume beauty-related content.

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