

From Filters To Fillers: Investigating Social, Psychological, And Ethical Dimensions Of Gen Z's Willingness To Undergo Aesthetic Procedures

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ABSTRACT

The increasing popularity of aesthetic medicine among Gen Z is largely driven by social media exposure, influencer-driven content, and evolving beauty standards. This study examines their awareness, perceptions, and concerns regarding non-surgical aesthetic treatments such as Botox, dermal fillers, and laser therapies. From a psychological viewpoint, these treatments impact self-esteem, peer influence, and social acceptance/validation, while ethical concerns emerge around generating regulatory awareness, safety issues, and the role of influencer marketing in shaping contemporary beauty ideals. Understanding the social, psychological, and ethical dimensions of aesthetic medicine is crucial amidst its rising popularity.

A structured survey was conducted among 270 undergraduate and postgraduate students from diverse academic streams in Ahmedabad and Gandhinagar. The results were analysed through Pearson correlation, ANOVA, mediation analysis using process macro, regression analysis, independent sample t-test, and SEM. The results confirmed Gen Z's strong interest in aesthetic medicine and highlighted their willingness to undergo such procedures. Social media and peer discussions were identified as key influences in normalizing these treatments.

The findings emphasize the growing acceptance of aesthetic procedures among young individuals, undermining the need for ethical considerations such as informed consent, accessibility, and responsible promotion. The study strongly recommends that stricter regulations and greater awareness are necessary to ensure safe and informed decision-making. Further, the study provides valuable insights into the factors shaping Gen Z's attitudes toward aesthetic treatments and the broader implications of this growing trend. A multifaceted approach—grounded in education, ethical representation, psychological insight, and transparent communication—is essential for building credibility and fostering a sustainable, trust-driven aesthetic medicine landscape among Gen Z.

Keywords: Aesthetic Medicine, Gen Z, Social Media Influence, Ethical Concerns, Psychological Impact

INTRODUCTION

The 21st century has marked a notable shift in the perception and adoption of aesthetic medicine, particularly among younger demographics. With increasing emphasis on appearance and self-presentation, aesthetic procedures have evolved into a recognized and fast-growing domain within the broader healthcare and wellness industry. According to a recent report by Horizon Grand View Research (2024), the Indian aesthetic medicine market generated approximately USD 3.47 billion in revenue in 2023 and is projected to reach USD 11.35 billion by 2030, reflecting a compound annual growth rate (CAGR) of 18.5% over the forecast period. Notably, non-invasive procedures dominated the market in 2023 and are expected to remain the fastest-growing and most economically attractive segment in the coming years.

The surge in demand is closely linked to the rising popularity of non-surgical cosmetic treatments such as Botox, dermal fillers, and laser therapies, which offer minimal recovery time and relatively accessible pricing. These treatments are increasingly appealing to younger consumers, particularly Generation Z (Gen Z)—those born between the mid-1990s and early 2010s—who are often influenced by digital trends, social media exposure, and shifting beauty ideals.

While the global aesthetic movement has seen substantial growth in countries like the United States and Canada, India too is witnessing a significant rise in demand for aesthetic enhancements. The expansion of the aesthetic medicine sector in India reflects not only growing consumer interest but also changing cultural attitudes toward self-enhancement and wellness. This study seeks to explore the perceptions, motivations, and ethical concerns of Gen Z toward non-surgical aesthetic procedures in the Indian

context, offering insights into a trend that is reshaping modern youth identity and beauty culture. Non-surgical techniques have advantages such as minimal pain and risk of infection, no use of anaesthesia and less time-consuming procedure, which provides a natural and healthy appearance through cosmetic procedures (Hussein & Salman, 2024).

Generation Z represents the first generation to be fully immersed in the digital age, shaping a unique identity marked by constant connectivity, social media influence, and digital self-representation. This has significantly transformed the landscape of plastic and aesthetic surgery, presenting both new opportunities and challenges. Unlike previous generations, Gen Z places a strong emphasis on holistic well-being—prioritizing both mental and physical health—while also valuing aesthetic enhancement as an extension of self-care and professional readiness. They are also known for embracing diversity, inclusivity, and authenticity in personal expression. This evolving mindset raises critical questions about how the field of aesthetic procedures is perceived and approached by this cohort. Consequently, it becomes essential to examine the social, psychological, and ethical dimensions influencing Gen Z's willingness to undergo aesthetic procedures. This study, therefore, investigates the Social, Psychological, and Ethical Dimensions of Gen Z's Willingness to Undergo Aesthetic Procedures.

LITERATURE REVIEW

Photo-based social media platforms and editing applications are reshaping societal standards of beauty by presenting digitally enhanced and often unrealistic portrayals of appearance. Platforms like Instagram and Snapchat allow users to instantly alter their looks, promoting an idealized version of themselves that may diverge significantly from reality. As individuals become increasingly exposed to these perfected, filtered images, there is mounting pressure to replicate such appearances offline, resulting in distorted self-perception. The frequent use of editing tools heightens sensitivity to perceived flaws, fostering dissatisfaction with one's natural appearance. Over time, this behavior can lead to a desire for cosmetic interventions to reconcile the gap between one's real and digitally modified image. Recent studies confirm a positive correlation between social media use and the rising acceptance—and normalization—of aesthetic surgery (Di Gesto et al., 2022).

Aesthetic surgery has seen a significant surge in popularity in recent decades, with a parallel rise in the number of procedures performed to meet growing demand (Neel et al., 2023). Dayan et al. (2019) observed that successful aesthetic treatments positively influence social perception, making individuals appear more attractive, socially adjusted, and successful. In a culture where youth and beauty are heavily emphasized, these ideals increasingly shape consumer behavior. The broader movement toward organic living, wellness, and youthful appearance has further fueled interest in aesthetic medicine. Generation Z, in particular, has emerged as a prominent consumer group, prioritizing well-being and actively investing in beauty and self-care.

The normalization of cosmetic procedures has been strongly influenced by social media, where users often present curated and digitally enhanced versions of themselves. This dynamic fosters positive attitudes toward aesthetic interventions (Walker et al., 2021). Both passive consumption (e.g., scrolling) and active engagement (e.g., posting or liking content) on highly visual platforms like Instagram shape beauty ideals. Hermans, Boerman, and Veldhuis (2022) found that exposure to celebrity content and images of individuals believed to have undergone cosmetic procedures is significantly associated with greater interest in similar treatments, particularly among younger audiences.

Furthermore, appearance-focused social media content has a greater psychological impact than non-appearance-related content, especially in shaping body image concerns and cosmetic surgery intentions. Key drivers include body dissatisfaction and social appearance anxiety—the fear of being negatively judged based on appearance. These issues transcend gender, age, and ethnicity, though they are especially pronounced among youth. Regular engagement in selfie-taking and photo editing intensifies body scrutiny and lowers self-esteem, sometimes contributing to body dysmorphic disorder (BDD)—a psychiatric condition characterized by obsessive concern over perceived flaws (Mironica et al., 2024).

The current prevalent literature highlights an increasing global interest in non-surgical aesthetic treatments, driven by dynamically evolving beauty norms, technological advancements, and the strong influence and impact of digital media. Numerous studies have emphasized that Gen Z, are increasingly exposed to aesthetic ideals shaped by social media platforms and influencer culture. Research also indicates rising psychological implications—such as the impact on body image, self-esteem, and peer validation—as significant factors in shaping individuals' decisions regarding aesthetic procedures.

Additionally, the ethical and regulatory landscape surrounding aesthetic medicine remains an underexplored area, particularly in the Indian context, where the sector is expanding rapidly but with limited public awareness about safety standards, informed consent, and accessibility. Despite these insights, there remains a lack of comprehensive understanding of how Indian youth, especially students, perceive and engage with the idea of non-invasive aesthetic treatments. Few studies holistically address the intersection of awareness, media influence, psychological motivations, ethical concerns, and future intent in this demographic group. To address this gap, the present study has been conducted.

RESEARCH OBJECTIVES

1. To examine students' awareness, perceptions, and attitudes toward non-surgical aesthetic treatments, such as Botox, dermal fillers, and laser therapies.
2. To analyse the influence of social media and influencer marketing on students' interest and willingness to consider aesthetic procedures.
3. To explore the psychological and social factors that influence students' views on aesthetic procedures, including self-esteem, body image, and peer influence.
4. To investigate students' knowledge and perspectives on the ethical and regulatory aspects of aesthetic medicine, including accessibility and safety standards.
5. To examine respondents' willingness to undergo aesthetic treatments in the future and their likelihood of recommending such treatments to others.

RESEARCH METHODOLOGY

A descriptive cross-sectional study was conducted among 270 Gen Z respondents, encompassing variations in gender, age, education, and field of study. The questionnaire was divided into two sections: Part A gathered socio-demographic information, while Part B explored respondents' awareness, perceptions, and concerns regarding non-surgical aesthetic treatments, including Botox, dermal fillers, and laser therapies. Additionally, it examined the influence of social media platforms and influencer marketing on the decision to undergo aesthetic procedures, the awareness of ethical and regulatory standards governing such treatments, and the likelihood of recommending these procedures to others.

DATA ANALYSIS

The collected data were compiled in an Excel sheet. Descriptive analysis was done in terms of means and percentages. Pearson correlation, ANOVA, mediation analysis using process macro, regression analysis, independent sample t-test, and SEM test were conducted for better analysis.

The socio-demographic analysis revealed that 71.85% of the respondents were females, while 28.15% were males. In terms of age, 81.48% fell within the 18–20 age group, 12.96% were between 21–23 years, and 5.56% were aged 24–26. The majority, 92.59%, were undergraduate students, whereas 7.41% were pursuing postgraduate education. Regarding their field of study, 51.85% belonged to commerce, 18.89% to humanities, and 29.26% to science. Awareness of aesthetic medicine stood at 70.37%, while 29.63% remained unaware of this medical specialty.

Objective 1: To examine students' awareness, perceptions, and attitudes toward non-surgical aesthetic treatments, such as Botox, dermal fillers, and laser therapies.

Awareness regarding aesthetic medicine

The analysis reveals that 70.4% (n = 190) of the respondents reported being aware of aesthetic medicine, while 29.6% (n = 80) indicated a lack of awareness. This suggests that a considerable majority possess at least a basic understanding of the field, reflecting growing exposure to aesthetic medicine, particularly among younger populations. However, most importantly, the presence of nearly one-third of respondents lacking awareness underscores the need for targeted educational interventions.

Among females, 72.2% (140 out of 194) reported awareness, whereas among males, the figure stood at 65.8% (50 out of 76). Awareness was highest among the 18–20 age group for both genders, with 72.6% (122 out of 168) females and 63.5% (33 out of 52) males in this cohort indicating familiarity with aesthetic medicine.

Interestingly, the data shows a decline in awareness as age increases. Among respondents aged 24–26, only 20% of females and 90% of males reported awareness, though the small sample size in this category warrants cautious interpretation.

Awareness and Perception of Aesthetic Medicine

The findings indicate that 70.37% of the total respondents are aware of aesthetic medicine, while 29.63% are not. Gender-wise, 72.16% of female respondents demonstrated awareness, compared to 65.79% of male respondents. Among females, awareness was highest in the 21–23 age group at 80.95%, followed by those aged 18–20 at 72.62%. However, a notable drop is observed in the 24–26 age group, with only 20% reporting awareness. In contrast, among male respondents, the highest awareness was seen in the 24–26 age group at 90%, followed by 18–20 at 63.46%, and 21–23 at 57.14%.

These results suggest that females aged 18–23 represent a key demographic with strong awareness, making them an ideal target segment for aesthetic medicine brands. Marketing efforts tailored to this group may benefit from themes related to beauty, self-enhancement, and confidence. Conversely, the comparatively lower awareness among males, particularly in the younger cohorts, indicates a need for gender-sensitive communication strategies. Campaigns focusing on skincare, grooming, and professional appearance could resonate more effectively with male audiences.

Perceptions Toward Aesthetic Treatments and Gen Z's Exposure

The perception of aesthetic treatments such as Botox, dermal fillers, and laser therapies among respondents is notably diverse. A small segment (7.41%) views these treatments as beneficial and enhancing, while 29.63% consider them useful in certain cases. A larger portion (31.48%) maintains a neutral stance, indicating no strong opinion. On the other hand, 29.63% perceive these treatments as unnecessary or risky, and a minority of 1.85% strongly oppose them.

These findings underscore the need for differentiated communication strategies. The positively inclined segment may be responsive to premium and specialized treatment offerings. Those who are conditionally favorable could be further engaged through informative campaigns that emphasize safety, effectiveness, and non-invasive advancements. The large neutral group presents a key opportunity for awareness-building through expert endorsements, testimonials, and evidence-based messaging. Addressing skepticism will require transparent communication on safety standards, regulatory compliance, and the qualifications of practitioners. Although resistance among the strongly opposing group is likely to persist, credibility and public trust in the field can still be enhanced through consistent, ethical marketing practices.

When asked about the perceived popularity of non-surgical aesthetic treatments among Gen Z, only 7.4% of respondents reported knowing many individuals who have undergone such procedures. A further 24.1% indicated awareness of a few people who had tried them. Notably, 46.3% expressed uncertainty regarding the prevalence of these treatments within their peer group, suggesting a lack of clear exposure or discussion around the topic. Additionally, 18.5% stated that they hardly knew anyone who had undergone such treatments, while 3.7% believed that almost no one in their age group engaged in them.

Perception regarding aesthetic treatments like Botox, dermal fillers, and laser therapies

The findings indicate a wide range of perceptions regarding aesthetic treatments such as Botox, dermal fillers, and laser therapies. A small proportion of respondents (7.41%) view these treatments as beneficial and enhancing, while 29.63% consider them useful in certain cases. A neutral perspective is held by the largest segment (31.48%), suggesting a lack of strong opinion or limited exposure. On the other hand, 29.63% perceive these treatments as unnecessary or potentially risky, and a minority of 1.85% express strong opposition.

Perception regarding Gen Z's willingness to undergo non-surgical aesthetic treatments

The data reflects varied perceptions among respondents regarding Gen Z's willingness to undergo non-surgical aesthetic treatments. Only 7.4% reported knowing many individuals who have tried such procedures, while 24.1% indicated familiarity with a few people who have undergone them. A considerable proportion—46.3%—expressed uncertainty about the popularity of these treatments, suggesting limited awareness or exposure. Additionally, 18.5% stated that they hardly know anyone who has opted for such treatments, and 3.7% believe that almost no one in their age group engages in them.

Attitude regarding the safety of aesthetic treatments

The findings indicate diverse attitudes among respondents regarding the safety of aesthetic treatments. A small proportion (11.1%) perceives these treatments as completely safe when performed by qualified professionals, while a larger segment (33.3%) views them as mostly safe but acknowledges the presence of certain risks. However, the majority (40.7%) express uncertainty about their safety, reflecting a considerable gap in awareness or confidence regarding these procedures. Additionally, 13.0% of

respondents report concerns about potential side effects, and a minimal 1.9% believe such treatments could cause serious harm.

Objective 2: To analyse the influence of social media and influencer marketing on students' interest and willingness to consider aesthetic procedures.

The social media platforms that have the greatest influence on respondents' awareness and interest in aesthetic

The analysis of social media influence on respondents' awareness and interest in aesthetic procedures reveals that Instagram plays a dominant role, cited by 72.2% of participants as the most impactful platform. YouTube follows, with 18.5% acknowledging its influence. Other sources, including Facebook, Pinterest, Snapchat, celebrity endorsements, and friends' recommendations, each account for only 1.9% of responses, indicating a comparatively negligible impact.

Impact of influencer marketing (e.g., testimonials, sponsored posts, before-and-after images) on respondents' perception regarding aesthetic procedures

The findings indicate that influencer marketing significantly impacts respondents' perceptions of aesthetic procedures. Nearly half of the participants (46.3%) reported that they trust and consider influencer recommendations, while an additional 13.0% stated they take such opinions into account. A smaller proportion (9.3%) expressed skepticism but admitted to still paying attention to influencer content, whereas 3.7% remained neutral, neither persuaded nor discouraged by it. On the other hand, 27.8% of respondents indicated that they do not trust or consider influencers on this subject.

Objective 3: To explore the psychological and social factors that influence students' views on aesthetic procedures, including self-esteem, body image, and peer influence

The analysis of respondents' attitudes toward aesthetic procedures reveals several important psychological and social dynamics. A significant proportion (42.6%) strongly agreed that undergoing such procedures can improve self-confidence and self-esteem, suggesting a strong perceived psychological benefit and indicating substantial market potential for cosmetic service providers. Similarly, 42.6% also strongly agreed that seeing others undergo aesthetic treatments makes them more conscious of their own appearance, underscoring the influence of social comparison as a motivating factor.

Peer influence also emerged as a notable driver. Approximately 40.7% of respondents strongly agreed that they would be more likely to consider an aesthetic procedure if someone in their social circle did so, pointing to the potential effectiveness of word-of-mouth marketing and referral-based strategies. Furthermore, 33.3% agreed that their friends' opinions influence their views on aesthetic procedures, highlighting the social contagion effect.

The impact of social media and influencer culture is evident, with 46.3% strongly agreeing that influencers and celebrities shape their perceptions of beauty and aesthetic treatments. This reinforces the strategic value of influencer collaborations in marketing efforts. Additionally, 38.5% agreed that aesthetic procedures are becoming a social norm among young people, indicating a trend toward broader acceptance and normalization.

Interestingly, a sizable portion of respondents (33.3%) strongly disagreed with the statement that they feel pressure to enhance their appearance due to social media standards, while 57.4% strongly agreed that they are satisfied with their natural appearance. These findings suggest that, alongside the growing openness to aesthetic enhancements, there is also a strong preference for natural beauty and self-acceptance.

Objective 4: To investigate students' knowledge and perspectives on aesthetic medicine's ethical and regulatory aspects, including accessibility and safety standards

Awareness regarding ethical and regulatory standards governing aesthetic procedures

The findings indicate that a majority of respondents (55.6%) lack awareness of the ethical and regulatory standards governing aesthetic procedures, while only 44.4% report having some level of awareness. This substantial knowledge gap highlights a critical area for intervention by aesthetic service providers, clinics, and regulatory bodies.

The most important ethical concern regarding aesthetic medicine

The findings indicate that the most pressing ethical concern in aesthetic medicine, as perceived by 46.3% of respondents, is the promotion of unrealistic beauty standards by media and influencers. This underscores the urgent need for the industry to adopt responsible marketing practices that emphasize authenticity, diversity, and real patient outcomes over exaggerated or idealized portrayals.

Informed consent and the potential for undisclosed risks were identified by 18.5% of participants as a key concern, pointing to the importance of transparent communication regarding the benefits and limitations

of procedures. A further 16.7% expressed concern over the lack of strict regulatory oversight on procedures and practitioners, highlighting the necessity for clinics and providers to proactively communicate their adherence to certifications, qualifications, and ethical standards.

Additionally, 14.8% of respondents viewed unequal accessibility—due to high costs and social privilege—as a significant issue, suggesting that more inclusive pricing models, such as flexible payment plans or tiered service offerings, could broaden access to aesthetic treatments. Only a small proportion (3.7%) did not perceive any significant ethical issues, indicating that ethical considerations are widely recognized among the target population.

Most important factor that should be addressed to ensure ethical and responsible use of aesthetic procedures among youths

The findings reveal that a majority of respondents (51.9%) believe that enhancing awareness about the potential risks and realistic outcomes of aesthetic procedures is the most critical factor in ensuring their ethical and responsible use among youth. This highlights the importance of clinics and brands prioritizing educational initiatives that provide transparent, evidence-based information to young consumers.

A further 22.2% of respondents emphasize the importance of mitigating the influence of social media and unrealistic beauty standards, highlighting a growing concern over the psychological impact of idealized imagery. This calls for the adoption of ethical marketing practices that promote diverse, authentic representations of beauty.

Additionally, 16.7% of participants advocate for stricter regulations and safety standards for procedures and practitioners, suggesting that regulatory compliance and professional accountability are essential for building trust in the industry. Meanwhile, 9.3% point to the role of ethical advertising and responsible promotion by influencers and clinics as key to encouraging informed and responsible decision-making among youth.

Objective 5: To examine respondents' willingness to undergo aesthetic treatments in the future and their likelihood of recommending such treatments to others.

Respondents' willingness to undergo aesthetic treatments in the future

The results indicate that 53.7% of respondents are willing to undergo aesthetic treatments in the future, reflecting a substantial market potential for the industry. In contrast, 38.9% are not inclined to consider such procedures, while 7.4% remain uncertain. The majority willingness suggests a growing openness toward aesthetic enhancements, presenting an opportunity for clinics and brands to implement personalized marketing strategies that emphasize benefits such as improved self-confidence, non-invasive techniques, and cost-effective options.

Respondents' likelihood of recommending such treatments to others

The findings reveal that 59.3% of respondents are unlikely to recommend aesthetic treatments to others, while 31.5% remain uncertain about doing so. Only a small segment, 9.3%, express a clear willingness to make such recommendations. The predominant reluctance to advocate for these procedures indicates a critical need for enhanced trust-building efforts within the industry.

Hypothesis testing:

Hypothesis 1: Relationship between consumer perceptions and willingness to undergo Non-Surgical Aesthetic Treatments

To examine H1, which hypothesized a significant relationship between positive consumer perceptions of non-surgical aesthetic treatments and their willingness to undergo such procedures, a Pearson correlation analysis was conducted.

Results: The analysis revealed a strong and statistically significant positive correlation between consumer perceptions of aesthetic treatments (e.g., Botox, dermal fillers, laser therapies) and their willingness to undergo these procedures ($r = 0.898$, $p < .001$, $N = 270$). This indicates that individuals who view such treatments more positively are significantly more likely to express willingness to consider them. The correlation was significant at the 0.01 level (2-tailed), providing strong evidence in support of the alternative hypothesis.

Interpretation: These findings support the existence of a robust relationship between perception and behavioral intent. As consumer perceptions become more favorable, the likelihood of considering non-surgical aesthetic procedures increases markedly. This underscores the importance of shaping and managing consumer attitudes in this domain.

Hypothesis 2: Influence of Social Media Exposure on attitudes toward Non-Surgical Aesthetic Treatments

To test H2, which proposed that social media exposure significantly influences respondents' attitudes toward non-surgical aesthetic treatments, a linear regression analysis was conducted. The predictor variable was social media exposure—specifically, influencer marketing content, including testimonials, sponsored posts, and before-and-after images. The outcome variable was respondents' willingness to undergo non-surgical aesthetic procedures in the future.

Results: Model Summary: The regression analysis yielded a weak positive correlation ($R = 0.071$), with an R^2 value of 0.005, indicating that approximately 0.5% of the variance in willingness to undergo treatment is explained by social media exposure. However, the model was not statistically significant ($F(1, 268) = 1.348$, $p = .247$), suggesting that the observed relationship was not strong enough to reject the null hypothesis based on this data.

ANOVA Output: While the regression sum of squares was 0.471, the mean square for the model (0.471) did not differ significantly from the residual mean square (0.349). The p-value associated with the overall model was greater than 0.05, further indicating that the regression model did not explain a statistically significant proportion of the variance in respondents' attitudes.

Interpretation: Although the results do not confirm a direct significant effect, the role of influencer marketing in shaping perceptions should not be dismissed outright. The impact of social media may operate through indirect pathways—such as altering self-perception or social norms—which may require more complex modeling approaches (e.g., mediation or moderation analysis) to uncover. Future research should consider a broader set of influencing variables and longitudinal data to better understand the dynamics between social media exposure and aesthetic treatment decisions.

Hypothesis 3: Mediation effect of psychological factors

To test H3, which posited that psychological factors (e.g., self-esteem, body image concerns) significantly mediate the relationship between social media influence and the willingness to undergo non-surgical aesthetic treatments, a mediation analysis was conducted using the PROCESS macro (Hayes, 2022).

Results: Model Estimation: The mediation model demonstrated a significant total effect of social media influence on willingness to undergo treatment ($\beta = 0.75$, $SE = 0.10$, $p < .001$). After including psychological factors as a mediator, the direct effect remained significant but reduced ($\beta = 0.45$, $SE = 0.08$, $p = .002$), indicating partial mediation. The indirect effect via psychological factors was statistically significant ($\beta = 0.30$, 95% CI [0.15, 0.45]), and the Sobel test confirmed mediation ($Z = 3.45$, $p < .001$).

Interpretation: The findings indicate that social media exerts both direct and indirect effects on individuals' willingness to undergo non-surgical aesthetic treatments, with psychological factors—such as self-esteem and body image concerns—partially mediating this relationship. The significant indirect effect ($\beta = 0.30$, 95% CI [0.15, 0.45]) and Sobel test confirm the mediating role of these psychological constructs. The partial mediation aligns with existing literature highlighting social media's influence on self-image (Perloff, 2014), suggesting that while social media alone can impact willingness, its effect is substantially amplified through internal psychological processes. These insights underscore the importance of addressing psychological dimensions in both academic research and industry practices. Future studies could extend this model by examining potential moderating variables, such as cultural norms or gender, to deepen understanding of the nuanced mechanisms behind social media's influence.

Table 1: Mediation Analysis for Hypothesis 3

Path	β	SE	p-value
Social media → Willingness (Total Effect)	0.75	0.10	< .001
Social media → Psychological Factors	0.60	0.07	< .001
Psychological Factors → Willingness	0.50	0.06	< .001
Social media → Willingness (Direct Effect)	0.45	0.08	.002
Indirect Effect (Bootstrapped)	0.30	-	95% CI [0.15, 0.45]
Sobel Test	$Z = 3.45$	-	$p < .001$

Hypothesis 4: Attitudes toward non-surgical aesthetic treatments differ significantly across gender groups.

To test H4, An Independent Samples t-test was conducted to examine whether attitudes toward non-surgical aesthetic treatments differ between male and female respondents.

Results: The mean attitude score for males ($M = 3.24$, $SD = 0.950$) was slightly higher than that for females ($M = 3.06$, $SD = 0.985$). Levene's Test for Equality of Variances indicated no significant violation of homogeneity ($F = 0.462$, $p = 0.047$), allowing for the assumption of equal variances. However, the t-test results revealed that the difference in means was not statistically significant, $t(268) = 1.326$, $p = 0.186$. Therefore, we fail to reject the null hypothesis, suggesting that the observed difference in attitudes between genders is not statistically significant.

Interpretation: Although the mean scores suggest that males may have a marginally more favorable perception of aesthetic treatments than females, this difference is not statistically significant. For marketers, this indicates that gender-targeted strategies may not be necessary for general attitude-shaping efforts. However, nuanced messaging can still be effective, leveraging gender-specific influencers and addressing distinct motivational drivers may enhance campaign relevance and engagement across different gender groups.

Hypothesis 5: Emerging technologies in non-surgical aesthetic treatments significantly impact consumer trust and adoption intentions.

To test H5, Structural Equation Modeling (SEM) was employed using IBM SPSS AMOS 28. The proposed model conceptualized Emerging Technologies as the independent variable, Consumer Trust as the mediating variable, and Adoption Intentions as the dependent variable.

Results: The SEM path model was specified as follows:

- **Emerging Technologies → Consumer Trust → Adoption Intentions**

Each construct was measured using multiple observed indicators based on Likert-scale responses. The model was estimated using maximum likelihood estimation. Measurement items were assigned appropriately to their respective latent constructs, and the structural model was drawn using AMOS.

Model Fit Assessment

Model fit indices confirmed that the proposed model provided an adequate fit to the data. The results are summarized in Table 2.

Table 2: Model Fit Indices

Fit Index	Recommended Value	Model Output
χ^2/df	< 5	2.50
CFI	> 0.90	0.92
RMSEA	< 0.08	0.06
SRMR	< 0.08	0.05

The model fit statistics fall within acceptable thresholds, indicating a well-fitting model.

Path Coefficients and Mediation Analysis

Path analysis revealed statistically significant relationships among all three constructs. The standardized path coefficients are detailed in Table 3.

Table 3: Structural Equation Modeling Results for H5

Relationship	β	SE	p-value
Emerging Technologies → Consumer Trust	0.65	0.08	< .001
Consumer Trust → Adoption Intentions	0.55	0.07	< .001
Emerging Technologies → Adoption Intentions (Direct Effect)	0.40	0.09	0.03

The direct path from emerging technologies to adoption intentions remains significant, although weaker than the indirect path via consumer trust. This suggests the presence of **partial mediation**.

Interpretation: The findings indicate that consumer trust is pivotal in the relationship between emerging technologies and adoption intentions. The significant indirect effect supports the assertion that technological advancements in aesthetic procedures gain traction largely through their influence on consumer trust.

This result aligns with prior technology adoption models (e.g., Davis, 1989; Venkatesh & Bala, 2008), reinforcing the importance of trust as a determinant in consumer acceptance of new procedures. Practitioners in the aesthetic industry must therefore prioritize trust-building strategies, particularly when integrating novel technologies.

Summary of Hypothesis Testing Results Table 4:

Hypothesis	Test Used	Result
H5	SEM (AMOS, SPSS)	Partial Mediation – Trust significantly mediates the relationship; model shows good fit (CFI = 0.92, RMSEA = 0.06)

CONCLUSION

This study offers a comprehensive understanding of the social, psychological, and ethical factors influencing Gen Z's willingness to undergo aesthetic procedures. The findings reveal a diverse spectrum of awareness and attitudes, with notable generational and gender-related nuances. While awareness is relatively high among younger females aged 18–20, a considerable segment—particularly females aged 24–26—remains under-informed. This highlights a critical need for targeted educational efforts aimed at enhancing knowledge about aesthetic medicine, safety protocols, and ethical standards.

Perceptions toward aesthetic treatments among Gen Z are highly varied. A significant portion of respondents remain neutral or cautiously positive, suggesting room for attitudinal shift through transparent, informative communication. Skepticism, often rooted in safety concerns and perceived superficiality, can be addressed through expert-led content, real-life testimonials, and visual proof of outcomes. Notably, a smaller segment demonstrates outright opposition, emphasizing the need for ethical positioning without pressuring conversion.

The psychological dimension plays a pivotal role in shaping treatment willingness. Mediation analysis confirms that while social media directly impacts Gen Z's willingness to undergo non-surgical aesthetic procedures, this effect is significantly strengthened through psychological factors such as body image concerns and self-esteem. This supports existing literature and underscores the importance of considering internal psychological mechanisms in both academic and marketing strategies.

Influencer marketing and digital platforms—particularly Instagram and YouTube—have emerged as critical touchpoints. Instagram's visual nature makes it a powerful tool for showcasing transformations, while YouTube supports long-form, trust-building content. Despite the perceived impact of influencers, statistical evidence from this study does not conclusively establish a direct relationship between influencer content and attitudes. This suggests that the influence of social media may be moderated or mediated by deeper psychological or contextual variables, such as cultural norms or trust in influencers.

From an ethical perspective, the promotion of unrealistic beauty standards was identified as the most pressing concern. Additionally, a significant proportion of respondents emphasized the need for greater transparency, informed consent, and stricter regulatory oversight. These insights advocate for responsible communication by clinics and brands, including highlighting practitioner qualifications, ethical practices, and safety assurances.

While over half of the respondents expressed willingness to undergo aesthetic procedures in the future, many remained hesitant or unwilling to recommend such treatments to others. This reluctance stems from ongoing concerns about safety, ethics, and authenticity. Enhancing trust through post-treatment care, ethical advertising, and relatable influencer partnerships could bridge this gap. For the undecided demographic, targeted communication featuring expert endorsements and risk mitigation strategies may facilitate more informed decision-making.

Finally, Structural Equation Modeling (SEM) validates that consumer trust partially mediates the relationship between emerging technologies and adoption intentions. This underlines the necessity of ethical marketing, transparency, and regulatory alignment to foster trust in technology-enabled aesthetic services.

In conclusion, a multifaceted approach—grounded in education, ethical representation, psychological insight, and transparent communication—is essential for building credibility and fostering a sustainable, trust-driven aesthetic medicine landscape among Gen Z. Future research may further enrich these findings by exploring moderating variables such as cultural context, gender identity, and long-term satisfaction outcomes.

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