

# Perceptions and Attitudes of Medical and Non-Medical Students towards Aesthetic Interventions; A Cross-Sectional Study

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## ABSTRACT

**Objective:** To evaluate the impact of social media on perceptions, attitudes, and decision-making regarding aesthetic interventions among medical and non-medical students.

**Study Design and Setting:** A cross-sectional study was conducted with students from Sir Syed College of Medical Sciences, Altamash Dental College, and SZABIST University in Karachi, Pakistan.

**Methodology:** An online survey was administered, consisting of three sections: socio-demographics, social media usage, and perceptions of aesthetic interventions. It assessed time spent on social media, preferred platforms, exposure to aesthetic content, and views on beauty standards. A p-value =0.05 considered statistically significant.

**Result:** Among 384 participants (70.3% female, 53.1% medical students), significant differences were found in perceptions of cosmetic surgery ( $p=0.032$ ), body satisfaction ( $p=0.016$ ), self-esteem ( $p=0.022$ ), and social media influence ( $p=0.004$ ).

**Conclusion:** Social media significantly influences beauty perceptions, self-esteem, and body satisfaction, with professional background impacting views. Further research is needed to explore the psychological and social effects of cosmetic procedures.

**KEYWORDS:** Aesthetic interventions, Cosmetic surgery, Medical Students, Non-medical students

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## INTRODUCTION

Surgical and non-surgical aesthetic procedures have become increasingly popular in recent years, with people seeking cosmetic enhancements to improve their appearance and confidence. Non-surgical procedures, also known as non-invasive procedures, do not require incisions or surgery and offer a variety of cosmetic enhancement procedures that can

address facial wrinkles, signs of aging, acne scarring, and more.<sup>1</sup> On the other hand, Surgical aesthetic procedures involve incisions made in the skin, sometimes the removal of skin, and require some form of anesthetic.<sup>2</sup> The famous surgical procedures among patients include breast augmentation, liposuction, facelift and tummy tuck. The availability of current beauty trends is almost everywhere to the reach of the eye from billboards, and magazines to television programs, the internet, and daily life conversations.<sup>2</sup> Recent trends in exercise, yoga, and dietary modifications, along with a growing positive attitude toward aesthetic surgeries, have significantly influenced the perspectives of young adults. While traditional methods like balanced diets and exercise require time to achieve body goals, surgical procedures such as liposuction, tummy tucks, and non-invasive fat reduction offer quicker, albeit temporary, results. Despite their advantages, these procedures are often seen as a convenient shortcut for those seeking instant transformations.<sup>3</sup> The non-surgical procedures most frequently chosen by young women in Pakistan included laser light therapy and dermal fillers for lip and facial enhancements.<sup>4</sup> The International Society of Aesthetic Plastic Surgery (ISAPS) reported that the top five non-surgical procedures globally are botulinum toxin, hyaluronic acid, hair removal, skin tightening, and fat reduction.

Aesthetic procedures have become increasingly popular in recent years, with a growing number of people seeking non-

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surgical facial aesthetics (NSFA) such as botulinum toxin and dermal fillers.<sup>5</sup> This trend has not gone unnoticed by medical and non-medical students, who have been the subject of various studies examining their perceptions and attitudes toward aesthetic interventions. These studies have explored a range of topics, from the impact of mainstream media on medical students' perception of plastic surgery.<sup>6</sup> Additionally, research has shown that patients seeking minimally invasive cosmetic procedures tend to be highly educated, affluent women who believe that their procedure will positively impact their appearance.<sup>7</sup> Individuals seeking cosmetic enhancements may experience greater dissatisfaction with their physical appearance, potentially motivating them to undergo such procedures in an effort to address these negative body image perceptions.<sup>8</sup> Individuals who have close family members or friends that have undergone cosmetic procedures often exhibit a more positive attitude and acceptance towards these aesthetic treatments.<sup>9</sup> The vicarious experience of witnessing someone within their social circle embrace cosmetic enhancements can play a significant role in shaping their perceptions. Moreover, having access to firsthand information and insights from trusted sources can make individuals feel more informed and confident about their decision if they choose to undergo cosmetic procedures themselves.<sup>10-12</sup>

Research suggests that body image is profoundly influential in various aspects of an individual's life. It extends beyond mere physical perception and can significantly affect one's mental and emotional well-being, social interactions, and overall quality of life.<sup>7,13</sup> Aesthetic procedures can have both positive and negative psychological impacts on patients. While some patients report improvements in confidence and reductions in appearance-related distress,<sup>14</sup> others may experience depression and anxiety postoperatively, particularly those with pre-existing mood disorders.<sup>15</sup> The inclination towards considering cosmetic surgery varies between genders, with women generally being more predisposed to this option compared to men.<sup>16</sup> According to the American Society of Plastic Surgeons, 92% of all cosmetic surgical procedures in the United States were performed on women in 2018.<sup>17</sup> This difference in willingness to contemplate cosmetic procedures can be attributed to a combination of societal and cultural factors. Women often face more substantial societal pressure and expectations regarding their physical appearance, which can lead to a heightened desire to address perceived imperfections through cosmetic enhancements.<sup>18</sup>

Within the landscape of university campuses, students pursuing medical and non-medical disciplines represent a diverse cohort, each with unique exposures, perspectives, and considerations. Medical students, given their specialized knowledge, might approach aesthetic interventions differently than their non-medical counterparts, who could be influenced by distinct societal and personal factors. Investigating the

perceptions and attitudes of both medical and non-medical students towards aesthetic interventions provides valuable insights into how different academic backgrounds influence people's opinions on cosmetic procedures.

## METHODOLOGY

In this research, we utilized a descriptive cross-sectional study design. Our study focused on two groups: medical students currently enrolled in the MBBS program and non-medical students enrolled in programs such as BDS, DPT, and Pharmacy, who are residing in Karachi, Pakistan. We employed a convenience sampling method to recruit participants for this study. To determine our sample size of 384, we used Open Epi software, with a confidence level set at 95%, an expected frequency of 48.5%,<sup>19</sup> and a margin of error of 5%.

The survey for this research was divided into two sections. The first section gathered socio-demographic information about the participants. The second section focused on participants' social media usage, such as hours spent on social media, the most frequently used platform, and whether they followed accounts promoting aesthetic interventions. Additionally, this section explored their perceptions regarding aesthetic interventions, including views on societal beauty standards and any personal connections to family or friends who have undergone aesthetic procedures. Students aged 18-30 years, presently enrolled in educational institutions in Karachi, encompassing both medical and non-medical fields. Both the genders, male and female were included in this study. Children and Elderly were excluded from this study as well as non-residents of Karachi, Pakistan. Lastly individuals who do not provide their consent will also not be included in this study.

The data collected from the 384 participants was entered into Microsoft Excel. Following that, we performed statistical analysis using IBM SPSS statistical software version 25. Descriptive analysis was conducted on socio-demographic variables such as gender, educational background, marital status, etc., to calculate frequencies and percentages. The students were categorized into two groups: medical students and non-medical students. We used the chi-square test to compare the responses of these groups across various demographic categories (e.g., age groups, educational levels) in relation to their perceptions and motivations for aesthetic interventions.

## RESULTS

The study comprised of 270; 70.3% females and 114;29.7% males. Among these, 204; 53.1% were medical students, while the remaining 180; 46.9% were non-medical students. In terms of marital status, the majority of participants were unmarried (348; 90.6%), as shown in table 1 below. The obtained p-value for this comparison was not statistically significant. However, when we examined these groups' perceptions of individuals undergoing cosmetic surgeries,

the p-value obtained was statistically significant (0.032). Similarly, when discussing their levels of body satisfaction, the statistical analysis yielded a significant result with a p-value of 0.016. When asked if social media accurately reflects the risks of aesthetic interventions, the difference between the medical and non-medical students' responses was statistically significant ( $p=0.045$ ). In the analysis of whether participants would consider undergoing aesthetic procedures if a substantial portion or the majority of their friends opted for them, a significant p-value of 0.003 was obtained. When it comes to self-esteem, the comparison between the medical and non-medical groups revealed a statistically significant outcome with a p-value of 0.022. Lastly, in terms of consulting a surgeon who had gained fame through social media, the p-value was 0.004, indicating statistical significance for this comparison between the groups.

## DISCUSSION

The non-significant p-value (0.212) obtained when comparing the two groups (medical and non-medical students) in relation to the influence of cosmetic surgery on societal beauty standards suggests that both groups held similar views in this regard. This finding suggests that, irrespective of their academic background, participants did not perceive cosmetic surgery as a significant driver of changing beauty standards. This might indicate a level of skepticism or critical thinking among the participants regarding the societal impact of such procedures. A study from Australia suggested that unrealistic beauty standards and the medicalization of appearance have been implicated in popularizing cosmetic surgery. Negative attitudes towards cosmetic surgery are also motivated by unrealistic beauty standards.<sup>20</sup>

In our investigation, a noteworthy outcome emerged with a p-value of 0.016 when evaluating the levels of body satisfaction between medical and non-medical students. It was observed that both groups generally expressed contentment with their physical appearances. Non-medical students, in particular, reported a high degree of satisfaction, while medical students tended to exhibit somewhat lower levels of satisfaction with their bodies. Body dissatisfaction has been found to influence attitudes towards cosmetic surgery among women.<sup>21,22</sup> In the research conducted on non-medical female college students in the United States, it was discovered that a stronger sense of body dissatisfaction

was linked to a higher likelihood of contemplating cosmetic surgery. The study employed the Body Appreciation Scale to measure the degree of body satisfaction and found that a more negative body image was associated with a greater inclination towards considering cosmetic surgery, with a significant p-value of 0.001.<sup>23</sup> Similarly, in our own study, we observed a correlation between body satisfaction levels and the inclination towards cosmetic procedures among non-medical students, with a p-value of 0.038. A study conducted in Tehran revealed that individuals undergoing cosmetic procedures exhibited a higher degree of negativity towards their body image compared to those who were not pursuing any cosmetic treatments.<sup>8,24</sup> In present study, it was observed that out of the medical students, 35 individuals (accounting for 17.2%) acknowledged undergoing aesthetic treatments, with 15 opting for surgical procedures and 20 for non-surgical ones. In contrast, among non-medical students, 27 students (constituting 15%) had aesthetic interventions, consisting of 12 surgical procedures and 15 non-surgical ones. It appeared that students had a slight preference for less invasive non-surgical procedures. According to the ASPS (American Society of Plastic Surgeons), there has been a 17% decrease in the number of invasive cosmetic procedures performed since 2000, while the number of minimally invasive procedures has surged by 123%.<sup>25</sup> In the Singaporean study, just 2.1% of medical students confessed to having experienced aesthetic procedures, while a mere 0.8% of junior college participants reported undergoing such interventions. Our results aligned with this research, as we observed that 12 out of 14 students had opted for non-invasive, minimal procedures.<sup>25</sup>

Prior research has indicated that women tend to contemplate aesthetic procedures more frequently than men, often due to the perceived societal pressure for women to attain a flawless and idealized body image.<sup>26,27</sup> However, our study yielded a somewhat higher percentage of male students (41.2%) expressing interest in cosmetic procedures compared to their female counterparts (37.2%). When we examined whether students were contemplating undergoing aesthetic procedures in relation to whether they had any family members, relatives, or friends who had undergone such procedures, we observed a statistically significant p-value of 0.000. These findings align somewhat with a study conducted by Brown et al., who discovered that women were more likely to consider cosmetic surgery if they had observed family and friends undergoing similar procedures, but this effect was not observed in men.<sup>28</sup> Another study involving women with undergraduate-level education revealed that a greater exposure to cosmetic surgery experiences among their friends and family predicted an increased likelihood of them considering cosmetic surgery in the future. This was likely due to the enhanced information available to prospective patients and the breakdown of previously held stereotypes.<sup>29</sup>

Table 1: Socio-demographic characteristics for participants.

|                                      | Frequency (Percentage) |
|--------------------------------------|------------------------|
| Male                                 | 114 (29.7%)            |
| Female                               | 270 (70.3%)            |
| Medical (MBBS)                       | 204 (53.1%)            |
| Non-Medical (BDS, DPT, and Pharmacy) | 180 (46.9%)            |
| Single                               | 348 (90.6%)            |
| Married                              | 34 (8.9%)              |
| Divorced                             | 2 (0.5%)               |

Table 2: Comparison of perceptions and attitudes towards aesthetics interventions between medical and non-medical students

|                                                                                                                                          |                                                                      | Medical (MBBS) | Non-Medical (BDS, Pharmacy, DPT etc.) | p-value |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------|---------------------------------------|---------|
| Do you believe that the prevalence of cosmetic surgeries has played a role in raising societal beauty standards to unrealistic levels?   | Strongly Agree                                                       | 78             | 78                                    | 0.212   |
|                                                                                                                                          | Somewhat Agree                                                       | 71             | 61                                    |         |
|                                                                                                                                          | Neutral                                                              | 44             | 25                                    |         |
|                                                                                                                                          | Somewhat Disagree                                                    | 7              | 12                                    |         |
|                                                                                                                                          | Strongly Disagree                                                    | 4              | 4                                     |         |
| How do you perceive individuals who undergo aesthetic interventions?                                                                     | They are confident in their appearance and embrace self-improvement. | 37             | 21                                    | 0.212   |
|                                                                                                                                          | They may be influenced by societal pressure and beauty ideals.       | 62             | 44                                    |         |
|                                                                                                                                          | It is their personal choice, and I don't judge them.                 | 75             | 92                                    |         |
|                                                                                                                                          | They are insecure and seeking validation through physical changes.   | 30             | 22                                    |         |
| Have you ever had aesthetic surgical or non-surgical procedure done?                                                                     | Yes, Surgical                                                        | 15             | 12                                    | 0.372   |
|                                                                                                                                          | Yes, non-surgical                                                    | 20             | 15                                    |         |
|                                                                                                                                          | No                                                                   | 169            | 153                                   |         |
| How satisfied are you with your body's appearance, including factors like shape, size, muscularity/tone, and overall attractiveness?     | Very Satisfied                                                       | 65             | 87                                    | *0.016  |
|                                                                                                                                          | Somewhat Satisfied                                                   | 85             | 54                                    |         |
|                                                                                                                                          | Neutral                                                              | 41             | 26                                    |         |
|                                                                                                                                          | Somewhat Dissatisfied                                                | 10             | 11                                    |         |
|                                                                                                                                          | Very Dissatisfied                                                    | 3              | 2                                     |         |
| Do you think social media accurately represents the potential risks associated with aesthetic interventions?                             | Yes                                                                  | 40             | 27                                    | *0.045  |
|                                                                                                                                          | No                                                                   | 71             | 84                                    |         |
|                                                                                                                                          | Maybe                                                                | 93             | 68                                    |         |
| Would you contemplate having aesthetic procedures if a significant number or the majority of your friends were choosing to undergo them? | Yes                                                                  | 34             | 13                                    | *0.003  |
|                                                                                                                                          | No                                                                   | 97             | 112                                   |         |
|                                                                                                                                          | Maybe                                                                | 73             | 54                                    |         |
| Do you ever compare your appearance to social media influencers or celebrities?                                                          | Never                                                                | 52             | 69                                    | *0.022  |
|                                                                                                                                          | Rarely                                                               | 38             | 38                                    |         |
|                                                                                                                                          | Sometimes                                                            | 92             | 59                                    |         |
|                                                                                                                                          | Frequently                                                           | 13             | 10                                    |         |
|                                                                                                                                          | Always                                                               | 9              | 3                                     |         |
| Would you prefer consulting an aesthetic surgeon who is famous on social media?                                                          | Yes                                                                  | 75             | 43                                    | *0.004  |
|                                                                                                                                          | No                                                                   | 62             | 82                                    |         |
|                                                                                                                                          | Maybe                                                                | 67             | 54                                    |         |

In a survey conducted among nursing students, it was discovered that 27.8% of these students held the belief that cosmetic surgery is a good thing because it can help people feel better about themselves”.<sup>9</sup> In a similar vein, our study revealed that 18.1% of medical students and 11.7% of non-medical students shared the view that individuals undergoing aesthetic procedures are confident and embrace self-improvement.

## CONCLUSION

The findings suggest that cosmetic surgery significantly influences perceptions of beauty, self-esteem, and body satisfaction, with social media playing a critical role in shaping these attitudes. Additionally, differences in appearance-related discussions between medical and non-medical students highlight the varying impact of professional background on body image perceptions. These results underscore the need for further research on cosmetic



procedures' psychological and social implications, particularly in the context of evolving beauty standards and media influence.

## LIMITATIONS

The reliance on self-reported responses may have introduced recall bias and social desirability bias, potentially influencing the accuracy of the findings. Moreover, the majority participants were female, resulting in potential underrepresentation of male perspective. In addition, the ratio of medical to non-medical students was not equal, which may have introduced bias.

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### Authors Contribution:

**Shweta Gohil:** Conceptualization, Methodology, Manuscript Writing, Data Curation, Statistical Analysis

**Sapna Mukhi:** Data collection, Review and Editing

**Nimarta Sherwani:** Data collection, Review and Editing

**Monika Kumari:** Data collection, Review and Editing

**Ghazala Usman:** Conceptualization, Methodology, Supervision

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