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## RESEARCH ARTICLE

### The Impact of Social Media Posts Concerning Esthetic Dentistry on Self-Esteem and Satisfaction Among Adults in Saudi Arabia

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#### Abstract:

#### Background:

Social media platforms have become credible tools for spreading awareness of dental care as well as advertisements for esthetic dentistry, which may negatively affect users by leading to dissatisfaction and low self-esteem when they compare themselves with others.

#### Objective:

To measure self-esteem and satisfaction related to esthetic dentistry by administering a validated questionnaire to adults in Saudi Arabia, which investigates how they are affected by seeing the topic addressed on social media.

#### Methods:

This study investigated 515 participants living in Saudi Arabia. A self-administered validated questionnaire was electronically developed using Google Forms 2020. A link to the questionnaire was distributed through multiple social media platforms, such as WhatsApp, Twitter, and Instagram, to assess self-esteem and satisfaction resulting from the presentation of esthetic dentistry on social media platforms among adults. A pilot study was conducted to assess the validity and reliability of the questionnaire, which was modified based on feedback, as well as the results of the reliability testing.

#### Results:

The analysis showed that the social media platforms on which information about or advertisements for esthetic dentistry are most commonly found were Snapchat (45.8%) and Instagram (44.5%). A statistically significant association was found between the sociodemographic data, including age ( $P=0.00$ ), gender ( $P=0.000$ ), occupation ( $P=0.001$ ), monthly income ( $P=0.000$ ), and the effect of the appearance of one's smile on willingness to post personal photos on social media.

#### Conclusion:

The findings suggest that seeing esthetic dentistry addressed on social media sites influences social media users' self-esteem and satisfaction. Social media platforms should be encouraged to properly discuss common concerns and available dental treatments.

**Keywords:** Esthetic dentistry, Social media, Self-esteem, Dental self-confidence, Facial satisfaction, Psychological well-being.

#### Article History

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## 1. INTRODUCTION

Patient satisfaction is the ultimate goal of any esthetic treatment. Any dental procedure should fulfill the patients' expectations of improving their facial appearance and smile [1]. The field of esthetic dentistry has been under constant evo-

lution, as new technologies, products, and equipment have been developed, and experiences have improved. Dentists have led the way in changing lives by employing a tailor-made approach that uses certain elements to fit every patient's specific needs in regard to improving oral health and the smile [2]. Dental patients seeking esthetic treatment today are knowledgeable and have explicit goals [3].

As in any other form of therapy, a psychological element is

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essential in esthetic dental treatment [3]. There is ample evidence that a person's appearance has a significant effect on his or her life experiences, and that a healthy, attractive smile can achieve this successfully [2]. At present, esthetics is recognized in various environments as referring to personal appearance, which influences various aspects of life, such as work, behavior, self-esteem, and social connection [4]. Significant physical, psychological, mental, and personality changes can influence individuals' futures [4].

Social media are an electronic innovation that encourage the sharing of thoughts, ideas, and information through networking tools and applications [5, 6]. The most popular social media applications are YouTube, Twitter, Instagram, Facebook, and LinkedIn, all of which have undergone continuous, rapid, and massive development [7]. Digital reports published in 2020 showed that the use of social media and mobile phones has become an important part of everyday life for people worldwide [8]. More than 4.5 billion individuals currently use the web, while there are over 3.8 billion social media users [8]. The total population of the Middle East was estimated in 2020 to stand at 260 million, 183 million of whom use the internet [9]. According to Global Media Sight statistics, in January 2020, there were about 32.23 million internet users in Saudi Arabia, an increase of 15%, or 4.3 million users, over the figures for 2019 [10]. Moreover, there were an estimated 25 million social media users in Saudi Arabia in January 2020, showing a further increase of 2 million (8.7%) between April 2019 and January 2020 [10].

Because of their popularity, social media applications have become credible tools for spreading healthcare awareness and marketing dental health care services. Many dentists, from different dental specialties, share cases of cosmetic dentistry, restorative dentistry, dental surgery, orthodontics, periodontics, and dental implants on social media sites [11 - 14], and some healthcare providers use social media to publish questionnaires and articles for research purposes [12]. One cross-sectional study investigated the influence of social media on the decision to have a procedure to produce a "Hollywood smile" among 100 university students in the city of Riyadh and found a gender influence: Females were more dissatisfied with their smiles and wanted to enhance their appearance [15]. The study also showed that older participants are more affected by celebrities' smiles, leading them to seek esthetic dental treatment [15].

A randomized controlled trial study was conducted to investigate social media sites' effect on body dissatisfaction and smile dissatisfaction on a sample of 132 young adults (edited versus natural non-edited Instagram picture). It was found that post-exposure to ideal facial images has a statistically significant influence on facial and smile dissatisfaction but not on body dissatisfaction, while gender has no effect on either type of dissatisfaction [16].

A campus-based survey of North Indian University students showed that self-perceived pictures of dental esthetics have a remarkable effect on the subjects' social and psychological status, which is reflected in their behavior, self confidence, and satisfaction [17]. Hence, the presenting of esthetic dentistry, such as veneers or a Hollywood smile, on

social media sites may affect users of such sites negatively, leading to dissatisfaction and low self-esteem as a result of comparing oneself to others [16].

Research of social media's impact on self-esteem and dissatisfaction has indicated a direct negative influence on body image, especially in young women [16]. To our knowledge, no studies of this kind have been carried out in Saudi Arabia; nor has psychological wellbeing related to dental esthetics as presented in social media been measured in the Middle East. Therefore, the current study aims to measure self-esteem and satisfaction by using a validated questionnaire [18], related to dental esthetics, which investigates the impact of how dental topics are addressed on social media among adults in Saudi Arabia.

## 2. MATERIALS AND METHODS

A cross-sectional study was conducted. Ethical approval for the study was obtained from the institutional review board (IRB) of Umm Al-Qura University (Approval No. HAPO-02-K-012-2021-01-531). An online sample size calculator accessed in 17 Feb 2021 ([www.calculator.net](http://www.calculator.net)) was used to calculate a sample size of 385, based on the most recent estimates of Saudi Arabia's population (34,813,871), with a significance level of 0.05, 95% confidence level, and 5% margin of error. Inclusion criteria were that participants must be adults over the age of 19, social media users living in Saudi Arabia, who had received or considered receiving any esthetic dental treatment or consultation (orthodontics, bleaching, anterior restoration, veneers, Hollywood smile, shaping of teeth, *e.t.c.*). Adolescents under the age of 19, adults over the age of 65, adults who do not use social media, and adults who had not received or considered receiving esthetic dental treatment were excluded from the study.

A self-administered validated questionnaire was developed based on Rosenberg's self-esteem scale (RSES) and the questionnaires developed by Ansari *et al.* [15] and Al Awdah *et al.* [18], which were modified to suit the study. This questionnaire was used to assess self-esteem and satisfaction among adults in Saudi Arabia in regard to the way esthetic dentistry is presented on social media. The questionnaire contained 28 closed- and open-ended questions in Arabic, this being the primary language of our target population. The questionnaire was electronically developed using Google Forms 2020. A link to the questionnaire was generated and distributed through multiple social media platforms, such as WhatsApp, Twitter, and Instagram.

As the questionnaire was electronic, participants gave their consent by default by answering it. An explanation of the study and the purpose of data collection was given at the beginning of the electronic questionnaire. Participants' privacy and confidentiality were assured, no identifiers were collected, and all data, both hard and soft copies, were stored on Umm Al-Qura University premises and could only be accessed by the research team.

A pilot study was conducted to assess the validity and reliability of the questionnaire. Twenty participants were asked to answer the questionnaire; then, a week later, they were asked to do so a second time. Each participant assessed how long it

took to answer, the clarity of the questions, and the ability to understand each question. The questionnaire was modified based on both their feedback and the results of the reliability testing.

Data entry and analysis were carried out using SPSS Statistics for Windows, version 20 (IBM Corp., Armonk, N.Y., USA). Descriptive statistics and chi-square tests were carried out to analyze categorical variables. The level of significance was set at  $p < 0.05$ .

**3. RESULTS**

A total of 515 completed questionnaires was received. About half the respondents (50.9%) were aged between 19 and

29. Two thirds of the respondents (68.7%) were female, and, in terms of educational level, more than three quarters (77.3%) had achieved a bachelor’s degree. It was also found that the majority of the participants (93.4%) were not dental care providers, and most (83.5%) were not public speakers and did not work in media/social media, as shown in Table 1.

Findings also showed that 62.5% of the participants prefer to receive information about dental health through social media. As concerns esthetic dental treatment, 23.3% have received such treatment and been satisfied with it but think that it has not changed their smile, while 35% have not had esthetic dental treatment. Furthermore, 38.9% think that posting information, cases, and advertisements related to esthetic dentistry on social media is positive, as shown in Table 2.

**Table 1. Participants’ socio-demographic characteristics (N=515).**

Parameter	-	No.	Percent
Age	19–29	262	50.9%
	30–39	97	18.8%
	40–49	93	18.1%
	50–59	53	10.3%
	60–65	10	1.9%
Gender	Female	354	68.7%
	Male	161	31.3%
Educational level	University degree	58	77.3%
	Postgraduate (master–PhD degree)	398	11.5%
	High school or less	59	11.3%
Occupation	Employee in governmental sector	144	28.0%
	Student	87	24.1%
	Unemployed	32	17.7%
	Employee in private sector	34	16.9%
	Retired	124	6.6%
	Self-employed	91	6.2%
	Other	3	0.6%
Nationality	Saudi	493	95.7%
	Non-Saudi	22	4.3%
Monthly income	Less than 4000 SR	213	41.4%
	8000–11,999 SR	72	26.6%
	12,000–29,000 SR	137	16.9%
	4000–7999 SR	87	14.0%
	More than 30,000 SR	6	1.2%
Are you a dental care provider?	No	481	93.4%
	Yes	34	6.6%
Are you a public speaker or do you work in media or social media?	No	430	83.5%
	Yes	85	16.5%

**Table 2. Responses of participants regarding the experience of esthetic dentistry (N=515).**

Parameter	No.	Percent
Have you ever received or considered receiving any esthetic dental treatment or consultation (orthodontics, bleaching, anterior restorations, veneers, shaping of teeth, etc.)?	Yes	515 100.0%
Do you have an account on any social media platform?	Yes	490 95.1%
	No	25 4.9%

(Table 2) contd.....

Parameter	No.	Percent
Do you prefer receiving information about dental health through social media?	Yes	322 62.5%
	Not interested	118 22.9%
	No	75 14.6%
Do you trust the information you get from social media about esthetic dental treatments or products?	Neutral	206 40.0%
	I only trust information I get on social media from dentists or people I know	189 36.7%
	I do not trust any of the dental-related information I get from social media	61 11.8%
	I highly trust all or most of the dental-related information I get on social media	59 11.5%
Have you ever had esthetic dental treatment or considered having such treatment due to seeing advertisements, information, or pictures about esthetic dentistry on social media?	No, I have never visited or considered visiting a dentist for that reason	222 43.1%
	Yes, I have visited a dental esthetic clinic but not mainly for that reason	159 30.9%
	Yes, I have visited or highly considered visiting a dentist for that reason	134 26.0%
If you have had any esthetic dental treatment, how satisfied were you with the results?	I have not had any esthetic dental treatment	180 35.0%
	I was satisfied with the results but it didn't change my smile significantly	120 23.3%
	I was highly satisfied with the results, which have improved my quality of life	100 19.4%
	I was not satisfied at all, and my smile has got worse	68 13.2%
	I have not noticed any difference, and it doesn't affect my life	47 9.1%
What do you think about the influence of presenting topics, cases, and advertisements for esthetic dentistry on social media?	It can have a general positive influence to motivate people to take care of their smile and improve their quality of life	200 38.9%
	Positive with a slight negative effect	165 32.1%
	This can have a general negative influence by making people obsessed with the image of the ideal smile, which may reduce their self-esteem	81 15.8%
	I don't see any influence of that	48 9.3%
	Negative with a slight positive effect	20 3.9%
Are you satisfied overall with your smile and the look of your teeth?	Satisfied	220 42.7%
	Not satisfied	102 19.8%
	Neutral	99 19.2%
	Highly satisfied	80 15.5%
	Not satisfied at all	14 2.7%
Are you confident in the appearance of your teeth while talking or smiling in photos, videos, and public speaking, or when close to other people?	Yes, I have some confidence, but I would be more confident if I had a better smile	195 37.9%
	Yes, I feel highly confident and like to show my smile	149 28.9%
	No, I don't feel confident enough to smile in front of a camera or people	114 22.1%
	I have never thought about or been concerned about that	57 11.1%

As shown in Fig. (1), the social media platforms on which users most commonly find information about or advertisements for esthetic dentistry are Snapchat (45.8%), Instagram (44.5%).

According to our findings, common motives for visiting a dentist for esthetic treatment are recommendations from personal contacts (44.3%), offers and discounts on esthetic treatment (38.6%). The least common motive was recommendations from celebrities (7.6%), as shown in Table 3.

Participants self-rated their satisfaction with various esthetic elements of their smile on a score from 1 (lowest) to 10 (highest) for each element. The mean percentage of the satisfaction of patients with their dental esthetics overall, based

on self-evaluation, was  $68 \pm 18.8$ . The mean score of satisfaction with the esthetic elements ranged between 5 and 7. Alignment, symmetry, and absence of spacing or crowding of teeth showed a mean score of  $7.1 \pm 2.4$ , while the mean score for the protrusion or retrusion of the upper and lower jaw and alignment of bite was  $6.3 \pm 2.4$ . The color and shade of teeth presented a mean score of  $6.2 \pm 2.4$ , and the shape and size of the front teeth showed a mean of  $7.3 \pm 2.5$ . The mean score of the length of the front teeth revealed during talking or smiling and the amount of gum shown around the teeth during talking or smiling were  $7.7 \pm 2.5$  and  $7.2 \pm 3$ , respectively. The quality of any current restoration/veneer/crown in front teeth showed the lowest score ( $5.5 \pm 3.1$ ), as shown in Table 4.

Table 3. Potential motives for visiting a dentist for esthetic dental treatment.

Parameter	No.	Yes
Recommendations from personal contacts	228	44.3%
Offers and discounts on esthetic treatment	199	38.6%
Pre-post picture of real cases posted	165	32.0%
Quality of information provided about esthetic dental treatment	159	30.9%

(Table 3) contd.....

Parameter	No.	Yes
Educational qualifications of the dentists	130	25.2%
Recommendations from celebrities	39	7.6%
Other; please specify	11	2.1%

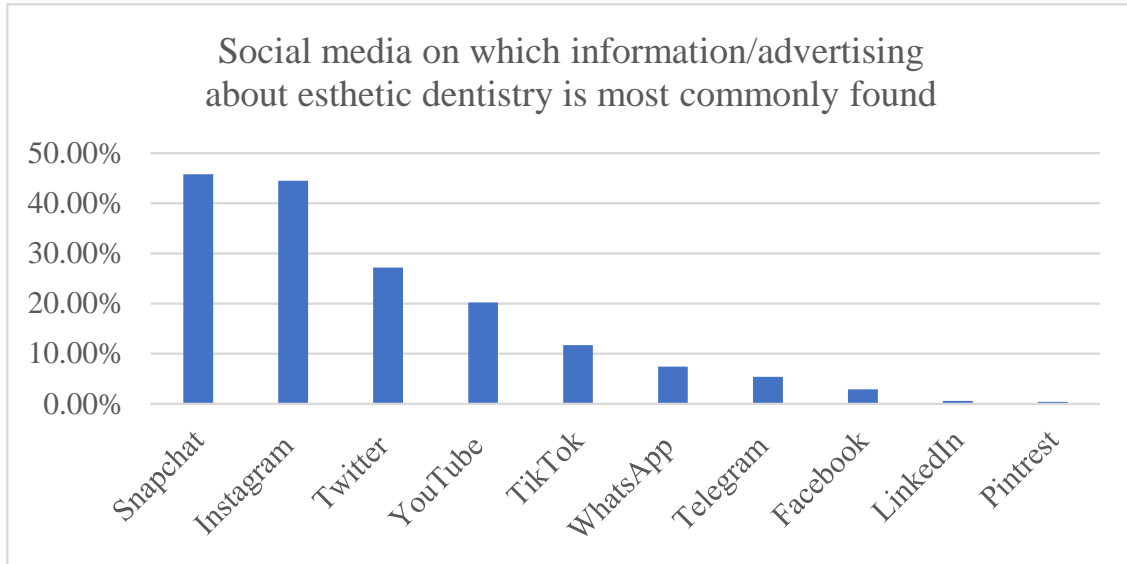


Fig. (1). Social media on which information/advertising about esthetic dentistry is mostcommonly found.

Table 4. Participants’ self-rating for each of the following aspects of their smile from 0.

Satisfaction Item (0–10 Score)	No.	Mean ± SD (Min – Max)
The alignment, symmetry, spacing, or crowding of any teeth	513	7.1 ± 2.4 (0 - 10)
The protrusion or retrusion of the upper and lower jaw and bite	457	6.3 ± 3.4 (0 - 10)
The color and shade of their teeth	513	6.2 ± 2.4 (0 - 10)
The integrity, shape, and size of their front teeth	512	7.3 ± 2.5 (0 - 10)
The length of their upper or lower front teeth revealed during talking or smiling	499	7.7 ± 2.5 (0 - 10)
The amount of gum shown around their teeth during talking or smiling	492	7.2 ± 3 (0 - 10)
The quality of any current restoration of/veneer or crown on front teeth	366	5.5 ± 3.1 (0 - 10)
Score (Percentage from all answered questions)	515	68 ± 18.8 (0 - 100)

Overall satisfaction with the smile and the appearance of teeth, as well as the satisfaction score in association with socio-demographic factors, are presented in Table 5. Age (P=0.000),

gender (P=0.000), educational level (P=0.003), occupation (P=0.000), and monthly income (P=0.004) were statistically significantly associated with the overall satisfaction with the smile and the look of the teeth.

Table 5. shows participants’ overall satisfaction with their smile and the look of their teeth, and the satisfaction score in association with the socio-demographic factors.

		Overall Satisfaction with Smile and the Look of Teeth			Satisfaction score
		Satisfied	Neutral	Unsatisfied	Mean ± SD
Age	19–29	63.0%	23.3%	13.7%	69.8 ± 18.9
	30–39	48.5%	12.4%	39.2%	69.4 ± 16.8
	40–49	49.5%	11.8%	38.7%	64.4 ± 19.3
	50–59	64.2%	24.5%	11.3%	64.4 ± 19.3
	60–65	80.0%	20.0%	0.0%	60.2 ± 20.5
	<i>p-value</i>	<b>0.000*</b>			

(Table 5) contd.....

		Overall Satisfaction with Smile and the Look of Teeth			Satisfaction score
		Satisfied	Neutral	Unsatisfied	Mean ± SD
Gender	Female	64.4%	21.5%	14.1%	67.8 ± 19
	Male	44.7%	14.3%	41.0%	68.3 ± 18.2
	<i>p-value</i>	<b>0.000*</b>			
Nationality	Saudi	58.8%	19.1%	22.1%	68.4 ± 18.5
	Non-Saudi	45.5%	22.7%	31.8%	58.7 ± 22.5
	<i>p-value</i>	<b>0.433*</b>			
Educational level	High school or less	36.2%	31.0%	32.8%	58.4 ± 21.3
	College/university (diploma or bachelor degree)	60.3%	18.8%	20.9%	68.5 ± 18.7
	Postgraduate (master-PhD degree)	66.1%	10.2%	23.7%	74.2 ± 12.6
	<i>p-value</i>	<b>0.003*</b>			
Occupation	Employee in governmental sector	66.0%	14.6%	19.4%	67.6 ± 18.4
	Employee in private sector	41.4%	14.9%	43.7%	66.4 ± 21.1
	Self-employed	46.9%	18.8%	34.4%	65.9 ± 18.2
	Retired	55.9%	26.5%	17.6%	66.9 ± 18.8
	Student	65.3%	23.4%	11.3%	73.9 ± 15.9
	Unemployed	58.2%	22.0%	19.8%	63 ± 19.1
	Other	33.3%	33.3%	33.3%	77.1 ± 21.4
	<i>p-value</i>	<b>0.000*</b>			
Dental care provider (e.g., dentist, dental assistant, dental student, dental technician)	No	57.2%	19.5%	23.3%	67.7 ± 18.2
	Yes	73.5%	14.7%	11.8%	72.6 ± 24.9
	<i>p-value</i>	<b>0.156</b>			
Are you a public speaker or do you work in media or social media?	No	57.4%	20.2%	22.3%	68.6 ± 17.9
	Yes	62.4%	14.1%	23.5%	65.1 ± 22.6
	<i>p-value</i>	<b>0.423*</b>			0.377**
Monthly income	Less than 4000 SR	58.7%	24.9%	16.4%	67.7 ± 18.3
	4000–7999 SR	47.2%	13.9%	38.9%	66.2 ± 21.9
	8000–11,999 SR	59.1%	16.1%	24.8%	68.3 ± 16.8
	12,000–29,000 SR	63.2%	14.9%	21.8%	69.3 ± 19
	More than 30,000 SR	83.3%	16.7%	0.0%	74.1 ± 32.9
	<i>p-value</i>	<b>0.004*</b>			
Do you have an account on any of the social media platform?	Currently	59.2%	18.6%	22.2%	68.1 ± 18.6
	Previously	40.0%	32.0%	28.0%	66.4 ± 22.1
	<i>p-value</i>	<b>0.130*</b>			

\*Numbers were analyzed by Chi-square test.

A statistically significant association was found between the sociodemographic data, including age (P=0.00), gender (P=0.000), occupation (P=0.001), monthly income (P=0.000), and the appearance of the smile when posting personal photos on social media. Also, there was a statistically significant association between sociodemographic data, including age (0.000), gender (0.000), educational level (0.018), and occupation (0.000) and the tendency to hide one’s teeth with the hand while smiling/talking or smiling with a closed mouth because of the appearance of the smile, as shown in Table 6.

**4. DISCUSSION**

This study aimed to measure the self-esteem and satisfaction of adults in Saudi Arabia with their dental esthetics as a result of browsing various dental topics, pictures, or advertisements on social media. To our knowledge, no previous studies have been carried out in Saudi Arabia or the wider Middle East to measure psychological wellbeing related

to how esthetic dentistry is presented on social media. This study discusses the impact of social media on the perceptions of people in Saudi Arabia of their smiles. Since social media have a significant impact on people, they can be used to improve dental health awareness among people by encouraging healthcare providers to discuss the common concerns people have and properly present available dental treatments without misleading them for commercial purposes.

In this study, we measured outcomes using a validated questionnaire. Our analysis showed that the majority of the participants using social media were aged from 19 to 29 years. Previous studies have shown that the younger age group is more likely to use social media to view dental esthetics, which is in agreement with our results [11, 16, 18]. Over two thirds of the participants were females, and most had achieved a university degree.

As a result of our investigation, we found that higher monthly income improves people’s satisfaction with their

smile, the appearance of their teeth, and the look of their smile when they post personal photos on social media, while a lower monthly income is linked to decreased satisfaction [4].

**Table 6. shows the associations between socio-demographic data and the effect of the look of their smile on participants' willingness to post their photos on social media and the effect of other people's opinions on their smiles.**

Parameter		The appearance of the smile may prevent them from posting photos on social media		Hiding their teeth with the hand while smiling/talking or tending to smile with a closed mouth because of the appearance of their smile			
		Yes	No	Always	Sometimes	Never noticed	Never
Age	19–29	16.4%	83.6%	9.5%	21.8%	37.0%	31.7%
	30–39	42.3%	57.7%	37.1%	12.4%	12.4%	38.1%
	40–49	30.1%	69.9%	22.6%	12.9%	19.4%	45.2%
	50–59	24.5%	75.5%	3.8%	15.1%	26.4%	54.7%
	60–65	20.0%	80.0%	0.0%	10.0%	50.0%	40.0%
	<b>p-value</b>	<b>0.000</b>		<b>0.000</b>			
Gender	Female	18.6%	81.4%	8.2%	21.5%	30.5%	39.8%
	Male	37.9%	62.1%	34.2%	8.7%	23.6%	33.5%
	<b>p-value</b>	<b>0.000</b>		<b>0.000</b>			
Nationality	Saudi	24.3%	75.7%	15.8%	17.8%	28.4%	37.9%
	Non-Saudi	31.8%	68.2%	27.3%	9.1%	27.3%	36.4%
	<b>p-value</b>	<b>0.426</b>		<b>0.450</b>			
Educational level	High school or less	24.1%	75.9%	17.2%	22.4%	19.0%	41.4%
	College/university (diploma or bachelor degree)	24.6%	75.4%	15.1%	18.1%	31.4%	35.4%
	Postgraduate (master–PhD degree)	25.4%	74.6%	23.7%	8.5%	16.9%	50.8%
	<b>p-value</b>	<b>0.986</b>		<b>0.018</b>			
Occupation	Employee in governmental sector	24.3%	75.7%	11.8%	13.9%	27.8%	46.5%
	Employee in private sector	43.7%	56.3%	39.1%	13.8%	16.1%	31.0%
	Self-employed	21.9%	78.1%	25.0%	18.8%	28.1%	28.1%
	Retired	23.5%	76.5%	2.9%	23.5%	38.2%	35.3%
	Student	16.9%	83.1%	11.3%	19.4%	37.1%	32.3%
	Unemployed	19.8%	80.2%	9.9%	20.9%	26.4%	42.9%
	Other	0.0%	100.0%	33.3%	33.3%	0.0%	33.3%
	<b>p-value</b>	<b>0.001</b>		<b>0.000</b>			
Dental care provider (e.g., dentist, dental assistant, dental student, dental technician)	No	25.4%	74.6%	16.8%	16.6%	27.9%	38.7%
	Yes	14.7%	85.3%	8.8%	29.4%	35.3%	26.5%
	<b>p-value</b>	<b>0.164</b>		<b>0.107</b>			
Are you a public speaker or do you work in media or social media?	No	24.0%	76.0%	16.0%	17.0%	28.1%	38.8%
	Yes	28.2%	71.8%	17.6%	20.0%	29.4%	32.9%
	<b>p-value</b>	<b>0.403</b>		<b>0.759</b>			
Monthly income	Less than 4000 SR	15.5%	84.5%	10.8%	21.6%	34.7%	32.9%
	4000–7999 SR	47.2%	52.8%	37.5%	20.8%	9.7%	31.9%
	8000–11,999 SR	32.8%	67.2%	19.7%	10.9%	32.8%	36.5%
	12,000–29,000 SR	16.1%	83.9%	6.9%	16.1%	23.0%	54.0%
	More than 30,000 SR	16.7%	83.3%	16.7%	0.0%	0.0%	83.3%
	<b>p-value</b>	<b>0.000</b>		<b>0.000</b>			
Do you have an account on any of the social media platform?	Currently	24.7%	75.3%	16.7%	17.6%	28.2%	37.6%
	Previously	24.0%	76.0%	8.0%	16.0%	32.0%	44.0%
	<b>p-value</b>	<b>0.937</b>		<b>0.675</b>			

\*Numbers were analyzed by Chi-square test.

The majority of the participants were confident about the appearance of their teeth during talking or smiling in photos, videos, public speaking, or close to others, but they would be more confident if they had a better smile. The null hypothesis assumed that showing esthetic dentistry on social media has no impact on self-esteem and satisfaction among adults in Saudi Arabia; however, our results suggested that social media does, in fact, influence self-esteem and satisfaction.

The key strength of our study was the adequate sample size, as the number of actual participants (515) exceeded the calculated sample size (385). Since this was a cross-sectional study using a questionnaire, the limitations were that the real impact of social media on respondents may or may not be anticipated and that participants spend different amounts of time using social media platforms.

## CONCLUSION

Dissatisfaction with a smile has a negative influence on psychological wellbeing and could affect an individual's quality of life. Therefore, the impact of dental appearance should not be ignored. The overall impact of how esthetic dentistry is presented on social media on self-esteem and satisfaction was found to be statistically significant. The use of social media by healthcare providers should be encouraged to discuss common concerns and properly present available dental treatment without misleading social media users for commercial purposes.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The study received ethical approval from the IRB of the College of Dentistry, Umm Al-Qura University, Saudi Arabia (IRB No. HAPO-02-K-012-2021-01-531).

## HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All research procedures followed were in accordance with the ethical standards of the committee responsible for human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008.

## CONSENT FOR PUBLICATION

As the questionnaire was electronic, participants gave their consent by default by answering the questionnaire. An explanation of the study and the purpose of data collection was given at the beginning of the electronic questionnaire.

## STANDARDS OF REPORTING

STROBE guidelines and methodologies were followed in this study.

## AVAILABILITY OF DATA AND MATERIALS

The data that support the findings of this study are available from the corresponding author [G.A.] upon reasonable request.

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None.

## CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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Declared none.

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