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Satisfaction with dental appearance in two cohorts of 75-year-olds examined in 2007 and 2017: A repeated cross-sectional study

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Abstract

Background: Satisfaction with dental appearance plays an important role in the self-esteem and psychological well-being of the elderly, the significance of which the attending dentist may not always be fully cognisant of.

Objectives: To assess the level of satisfaction with dental appearance, its associated factors and temporal changes in two cohorts of 75-year-old Swedes born 10 years apart.

Methods: In 2007, a questionnaire was mailed to all those living in Örebro and Östergötland counties, Sweden, who were born in 1932 ($n = 5195$), and in 2017 to all born in 1942 ($n = 7204$). The evaluation was carried out with a global question 'Are you satisfied with the appearance of your teeth?', and four attitude-related statements about dental appearance.

Results: About 80% in both cohorts were 'very satisfied' or 'to large extent satisfied' with their dental appearance. The 1932 cohort was significantly more concerned about their dental appearance than the 1942 cohort, and women were generally also significantly more concerned than men. In the regression analysis, 'very satisfied' with dental appearance was predicted by good chewing efficiency, having complete dentures, no impact from Oral Impacts on Daily Performance, disagreement that 'minor esthetic imperfections of the teeth have no importance, only they should function well', better perceived general health than same-aged peers and belonging to the 1932 cohort.

Conclusion: Satisfaction with dental appearance among 75-year-olds was generally high, with attitudes varying by gender and temporally. Women and the earlier-born generation (1932) were more concerned about dental appearance than men and the later-born generation (1942), respectively.

KEYWORDS
aesthetics, aged, cosmetics, personal satisfaction, physical appearance, quality of life

1 | INTRODUCTION

Physical attractiveness is more than ever considered an important, if not overriding, factor for happiness and success in modern society and especially so within developed countries. Social media plays no small part in the setting of popular standards regarding body image, beauty, how people view themselves in society and even job prospects.[1] The frenzied focus on body image as espoused on numerous interactive websites for social networking portray those people who are physically attractive as having a higher occupational status, possessing higher self-esteem, being more socially outgoing and even to be more pleasant company.[2]

To be good-looking may not be important only for the young generation but also for the old. In this regard it has been suggested that those elderly who look young for their age are more optimistic, outgoing, socially and psychologically healthy, while those who look older than their age have impaired psychological health and die earlier.[3] In order to retain the benefits of being physically attractive, cosmetic enhancements have been proposed to reduce the signs of ageing and augur a youthful look.[3] Ageing also involves changes in the skeletal and soft tissue parts of the face,[4] and cosmetic surgery may be an available option to counteract age-related changes. According to the Aesthetic Society National Databank in the United States, as many as 149 229 surgical aesthetic procedures and 445 343 non-surgical aesthetic procedures were performed in over 65-year-olds in 2019. Together, this corresponded to over 12% of all aesthetic procedures among all age groups reported to the database, and eyelid surgery followed by facelift were the two most commonly performed procedures.[5] According to Grand View Research, the global cosmetic dentistry market size was valued at USD 6.9 billion in 2020 and is expected to increase by 5% yearly from 2021 to 2028. Interestingly, the growth of this market is believed to be driven by the elderly population.[6]

Facial attractiveness is a significant element in the overall subjective assessment of beauty, and dental appearance is a contributory factor to facial attractiveness. In fact, dental appearance directly forms our impression of the people we meet,[7] and is, therefore, an important element in social interaction, psychological well-being and can even be a determinant in successful job seeking. In this regard, it has been reported that there is a 52% less likelihood to be employed if applicants had dental imperfections compared with those with a more normal smile.[8] Dental aesthetics can also influence our impression of attractiveness and personality attributes.[9] Both younger and older individuals attribute higher social class and intellectual capacity to individuals with an ideal dental appearance.[10] In 75-year-old Americans, a high self-rated dental appearance was correlated with being white and having a positive mental status.[11] The foregoing information would imply that, also among the elderly, dental appearance has an impact in both the social and psychological dimensions, which needs to be considered in the dental care of elderly patients.[12]

Dramatic changes have occurred over the last decades in terms of patterns and numbers of tooth retention into older age. For example, in Sweden 75% of 75-year-olds reported a more or less complete dentition in 2017 compared with only 55.9% in 2007. Along with this, edentulism decreased from 7.8% in 2007 to 2.3% in 2017.[13] This trend of older people retaining their natural teeth into older age may have implications for how they themselves assess their dental appearance. Furthermore, aesthetic problems related to dental appearance in the elderly may be more common today compared with that found in earlier generations when the majority wore complete dentures which often gave a 'perfect smile'. One might suspect that the elderly of today have large numbers of their own retained natural teeth would more likely report their self-perceived dental appearance negatively on account of, for example, colour changes, artificial crowns, gingival recession and spacing due to periodontal disease, all of which are common age-related changes of the dentition, thus especially so in the elderly.[14] However, a negative self-perception of their teeth does not necessarily have to be the case in the elderly, and it has been reported that English people over the age of 55 years are more satisfied with their dental appearance than younger individuals, and in another study, 81% of over 65-year-old Americans were satisfied with their dental appearance.[15,16] In Australians over the age of 75 years, only 26.2% were uncomfortable about their dental appearance which was lower than in the younger age groups studied, who ranged from 33.8% to 38.9%.[17]

More needs to be known about perceptions about and attitudes to dental appearance in the elderly today as it may influence dental healthcare management in this rapidly increasing age group. The aim of this study was, therefore, to assess self-reported satisfaction with dental appearance in two cohorts of 75-year-olds born 10 years apart, as well as any temporal changes noted from one cohort to the other. The hypotheses were that (1) the earlier-born generation (1932) would report less satisfaction and less concern about their dental appearance compared with the later-born generation (1942), and that (2) women would be more concerned about their dental appearance than men.

2 | MATERIAL AND METHODS

In 2007, a questionnaire was posted to all persons born in 1932 (n = 5195), and in 2017 it was posted to all who were born in 1942 (n = 7204), both groups being 75 years of age at the time of the respective surveys. All participants lived in Örebro and Östergötland counties, Sweden, which had a combined total population of 757 000.

2.1 | Questionnaire

The questionnaire has been previously described and its methodological aspects discussed.[18–20] It comprised 56 questions in 2007 and 55 questions in 2017, related to: (1) social conditions; (2) general health conditions; (3) oral conditions (e.g. satisfaction with teeth, oral problems, oral hygiene habits, number of teeth); and (4) experience and use of the oral healthcare system. In addition, there was an 8-item Oral Impacts on Daily Performance instrument (OIDP), a self-perception question and a series of attitude-related statements concerning oral

function and appearance of teeth. Regarding the difference in the number of questions in the 2007 and 2017 questionnaires, three occupation-related questions that were included in 2007 were replaced in the 2017 survey with two questions, one on type of residency and the other on the ability to take themselves to the dentist.

2.2 | Assessment of dental appearance

Dental appearance was evaluated by means of a global question 'Are you satisfied with the appearance of your teeth?', with four response alternatives: (1) Yes, very satisfied, (2) Yes, to a large extent satisfied, (3) No, not especially satisfied, (4) No, absolutely not satisfied. In addition, four attitude-related enquiries were included: (1) 'To have beautiful and perfect teeth is very important for how you are treated by other people'; (2) 'Minor esthetic imperfections of the teeth have no importance, only they should function well'; (3) 'A loss of a tooth that is visible is something to be ashamed of'; and (4) 'It does not matter how your mouth looks, as long as you can chew what you like'. The attitude-related questions had four response alternatives: (1) Agree completely, (2) Agree to a large extent, (3) Do not fully agree and (4) Absolutely do not agree.

2.3 | Statistical analysis

Descriptive and inferential analyses were carried out using Statistical Package for the Social Sciences (SPSS, Release 26) on an IBM Personal Computer. A Mann–Whitney U test was used to analyse differences by year-of-birth (1932 and 1942) cohorts and by gender. Logistic regression was performed with the global question 'Are you satisfied with the appearance of your teeth?' as dependent variable dichotomised as: (1) Very satisfied, and (2) Yes, to large extent satisfied/No, not especially satisfied/No, absolutely not satisfied. Unadjusted regression analyses were carried out between the dependent variable and a selection of independent variables which included: sociodemographic (year of birth, gender, marital status, education, place of residency, number of weekly social contacts, tobacco usage and alcohol consumption), health variables including medicine intake and doctor visits, oral health (number of teeth, chewing efficiency, denture wearing), OIDP and all four attitude-related statements dichotomized into: (1) Agree completely, and (2) Agree to a large extent/Do not fully agree/Absolutely do not agree. All independent variables that presented a statistically significant association of $p \leq .05$ in unadjusted logistic regression were entered in the adjusted logistic regression model (Forward conditional method).

2.4 | Ethics statement

The Ethics Committee in Uppsala, Sweden, approved the study (Dnr 2016/424). Informed consent was obtained from all the participants.

3 | RESULTS

Response rates for the 1932 and 1942 cohorts were 71.9% ($n = 3735$) and 70.7% ($n = 5091$), as obtained in 2007 and 2017, respectively. In response to the question 'Are you satisfied with the appearance of your teeth?', about 80% of both men and women in both cohorts, were 'very satisfied' or 'to a large extent satisfied'. There were no statistically significant differences between year-of-birth cohorts or gender, with the exception that women born in 1942 were less satisfied than men born in the same year ($p = .007$, Table 1).

The overall majority (>70%) of respondents 'agreed completely', or 'to a large extent' that 'to have beautiful and perfect teeth is very important for how you are treated by other people', and this was significantly more frequently so in the 1932 (79.2%) compared with the 1942 cohort (74.3%) ($p > .001$), and in both men ($p > .001$) and women ($p > .001$). There were no gender differences in responses to this statement within the two cohorts (Table 2). Over 90% 'agreed completely' or 'to a large extent' that 'minor esthetic imperfections of the teeth have no importance, only they should function well' and no significant differences were noted between year-of-birth cohorts, or gender (Table 3).

The 1932 cohort 'agreed completely' or 'to a large extent' significantly more frequently than the 1942 cohort (65.3% vs. 53.3%, respectively) that 'a loss of a tooth that is visible is something to be ashamed of' ($p < .001$), and this was similarly so for both men ($p < .001$) and women ($p < .001$). Gender comparisons showed that women agreed more frequently with this statement in both the 1932 ($p < .001$) and 1942 cohorts ($p = .009$) (Table 4). As regards the statement 'It does not matter how your mouth looks, as long as you can chew what you like', the majority in both the 1932 (59.3%) and 1942 cohorts (55.9%) 'did not fully agree', or 'absolutely did not agree', with the difference being statistically significant ($p = .014$). Furthermore, women disagreed with this statement more frequently than men in both the 1932 ($p = .001$) and 1942 cohorts ($p < .001$). Whereas there were no significant differences in responses to this statement between women in the 1932 and 1942 cohorts, there were differences between men in the two cohorts with the 1932 cohort disagreeing with the statement more frequently ($p = .04$) (Table 5).

Regression analysis revealed a relatively large number of significant correlations between perceived dental appearance and socio-demographic, general/oral health-related variables and attitude statements in the unadjusted model. In the adjusted model, these numbers were reduced and highest odds ratio (OR) for reporting 'very satisfied' was by those who reported very good chewing efficiency (OR 6.94, CI 5.56–8.70), followed in descending order, by complete denture wearers in both jaws (OR 3.54, CI 2.31–5.43), no impact from OIDP (OR 1.76, CI 1.42–2.17), disagreement with the statement 'minor esthetic imperfections of the teeth have no importance, only they should function well' (OR O.71, CI 0.56–0.91), better self-judged general health (OR 1.36, CI 1.18–1.57) and belonging to the cohort born in 1942 (OR 1.16, CI 1.0–1.33) (Table 6).

TABLE 1 Responses to the statement 'Are you satisfied with the appearance of your teeth?' in cohorts born 1932 and 1942, examined in 2007 and 2017, respectively.

	Cohort born 1932, examined in 2007						Cohort born 1942, examined in 2017					
	Women		Men		Total		Women		Men		Total	
	N	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Yes, very satisfied	293	15.6	292	17.4	585	16.5	364	14.2	370	15.6	734	14.9
Yes, to large extent satisfied	1195	63.8	1075	64.0	2270	63.9	1702	66.6	1614	68.1	3316	67.3
No, not especially satisfied	323	17.2	260	15.5	583	16.4	415	16.2	336	14.2	751	15.2
No, absolutely not satisfied	63	3.4	53	3.2	116	3.3	75	2.9	49	2.1	124	2.5
Total	1874	100.0	1680	100.0	3554	100.0	2556	100.0	2369	100.0	4925	100.0

Note: Mann–Whitney U test: Comparison between cohorts 1932 and 1942, total figures: *NS*; Comparison between genders within cohort 1932: *NS*; Comparison between genders within cohort 1942: $p = .007$; Comparison between women in cohorts 1932 and 1942: *NS*; Comparison between men in cohorts 1932 and 1942: *NS*.

4 | DISCUSSION

The hypothesis that the earlier-born generation (1932) should report less satisfaction and be less concerned about dental appearance compared with the later-born generation (1942) was not confirmed. In this regard, there was no significant difference between the cohorts with respect to the global question about satisfaction with dental appearance except for a minimally increased OR (1.16) for the 1942 cohort in the regression analysis predicting 'very satisfied' with dental appearance. The earlier-born generation was generally more concerned about dental appearance than the later-born one as reflected in statistically significantly more frequent agreement with the statements 'To have beautiful and perfect teeth is very important for how you are treated by other people', 'a loss of a tooth that is visible is something to be ashamed of' and disagreement with the statement 'It does not matter how your mouth looks, as long as you can chew what you like'. The hypothesis that women would be more concerned about their appearance than men was confirmed in most of the domains that were analysed, that is significantly less in agreement with the global question 'Are you satisfied with the appearance of your teeth?' (1942 cohort), more agreement with the statement 'a loss of a tooth that is visible is something to be ashamed of' (both cohorts) and more disagreement with the statement 'It does not matter how your mouth looks, as long as you can chew what you like' (both cohorts).

Surveys that are conducted in-person have the highest average response rate (76%) followed by postal (65%), e-mail (51%) and web-based (46%) surveys.[21] However, survey response rates show an accelerated decline during recent years and, for example in the UK Maternity Surveys, response rates decreased from 67% in 1995 to only 29% in 2018.[22,23] As regards the present study, a 70% response rate is clearly at the upper end of the aforementioned rates. Further, it is fair to say that the present study populations are quite representative of the whole Swedish population of 75-year-olds at both time points, namely 2007 and 2017, as has been previously elaborated upon.[13] In view of the representativeness of the included study samples, population-based conclusions may be drawn, at least for Sweden. On the other hand, caution should be exercised when attempting to generalise the results to other less developed and lower income countries which constitute a limitation of this study.

With reference to the main question posed in the study, the overall majority (~80%) of 75-year-olds in both cohorts reported themselves to be 'very satisfied' or 'to a large extent satisfied' with their dental appearance. In a UK national survey conducted in 2001, 80.3% of the participants over 55 years of age were similarly satisfied with their dental appearance,[15] although this age group is not fully comparable with our groups of 75-year-olds. In a study of 73–75-year-old Germans (born 1930–1932), satisfaction with dental appearance was rated as 7.2 on a scale where 10 denoted the highest satisfaction.[24] This figure can be said to be broadly comparable with our 1932 cohort who were 80.3% 'very satisfied' or 'to a large extent satisfied'. In general terms, therefore, it seems that satisfaction with dental appearance among the elderly is high, quite stable and without any notable temporal changes

TABLE 2 Responses to the statement 'To have beautiful and perfect teeth is very important for how you are treated by other people' in cohorts born 1932 and 1942, examined in 2007 and 2017, respectively.

	Cohort born 1932, examined in 2007						Cohort born 1942, examined in 2017					
	Women		Men		Total		Women		Men		Total	
	n	%	*N*	%	*n*	%	*n*	%	*n*	%	*n*	%
Agree completely	506	28.1	404	25.0	910	26.6	489	19.8	451	19.4	940	19.6
Agree to a large extent	891	49.5	908	56.1	1799	52.6	1312	53.2	1312	56.3	2624	54.7
Do not fully agree	330	18.3	268	16.6	598	17.5	566	23.0	503	21.6	1069	22.3
Absolutely do not agree	73	4.1	38	2.3	111	3.2	99	4.0	64	2.7	163	3.4
Total	1800	100.0	1618	100.0	3418	100.0	2466	100.0	2330	100.0	4796	100.0

Note: Mann–Whitney U test: Comparison between cohorts 1932 and 1942, total figures: $p < .001$; Comparison between genders within cohort 1932: *NS*; Comparison between genders within cohort 1942: *NS*; Comparison between women in cohorts 1932 and 1942: $p < .001$; Comparison between men in cohorts 1932 and 1942: $p < .001$.

TABLE 3 Responses to the statement 'Minor esthetic imperfections of the teeth have no importance, only they should function well' in cohorts 1932 and 1942, examined in 2007 and 2017, respectively.

	Cohort born 1932 examined in 2007						Cohort born 1942 examined in 2017					
	Women		Men		Total		Women		Men		Total	
	n	%	*N*	%	*n*	%	*n*	%	*n*	%	*n*	%
Agree completely	634	35.5	549	34.0	1183	34.8	871	35.3	809	34.6	1680	35.0
Agree to a large extent	999	56.0	941	58.3	1940	57.1	1381	56.0	1341	57.3	2722	56.7
Do not fully agree	108	6.1	100	6.2	208	6.1	177	7.2	154	6.6	331	6.9
Absolutely do not agree	44	2.5	23	1.4	67	2.0	36	1.5	35	1.5	71	1.5
Total	1785	100.0	1613	100.0	3398	100.0	2465	100.0	2339	100.0	4804	100.0

Note: Mann–Whitney U test: Comparison between cohorts 1932 and 1942, total figures: *NS*; Comparison between genders within cohort 1932: *NS*; Comparison between genders within cohort 1942: *NS*; Comparison between women in cohorts 1932 and 1942: *NS*; Comparison between men in cohorts 1932 and 1942: *NS*.

TABLE 4 Responses to the statement 'a loss of a tooth that is visible is something to be ashamed of' in cohorts 1932 and 1942, examined in 2007 and 2017, respectively.

	Cohort born 1932 examined in 2007						Cohort born 1942 examined in 2017					
	Women		Men		Total		Women		Men		Total	
	n	%	*N*	%	*n*	%	*n*	%	*n*	%	*n*	%
Agree completely	619	34.8	440	27.4	1059	31.3	562	23.0	436	18.7	998	20.9
Agree to a large extent	592	33.3	559	34.8	1151	34.0	765	31.4	777	33.4	1542	32.4
Do not fully agree	436	24.5	485	30.2	921	27.2	862	35.3	859	36.9	1721	36.1
Absolutely do not agree	131	7.4	121	7.5	252	7.4	250	10.3	254	10.9	504	10.6
Total	1778	100.0	1605	100.0	3383	100.0	2439	100.0	2326	100.0	4765	100.0

Note: Mann–Whitney U test: Comparison between cohorts 1932 and 1942, total figures: $p < .001$; Comparison between genders within cohort 1932: $p < .001$; Comparison between genders within cohort 1942: $p = .009$; Comparison between women in cohorts 1932 and 1942: $p < .001$; Comparison between men in cohorts 1932 and 1942: $p < .001$.

TABLE 5 Responses to the statement 'It does not matter how your mouth looks, as long as you can chew what you like' in cohorts 1932 and 1942, examined in 2007 and 2017, respectively.

	Cohort born 1932 examined in 2007						Cohort born 1942 examined in 2017					
	Women		Men		Total		Women		Men		Total	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Agree completely	219	12.2	205	12.7	424	12.4	245	10.0	255	11.0	500	10.5
Agree to a large extent	451	25.1	513	31.7	964	28.2	748	30.5	859	36.9	1607	33.6
Do not fully agree	680	37.8	598	37.0	1278	37.4	886	36.2	865	37.2	1751	36.7
Absolutely do not agree	447	24.9	300	18.6	747	21.9	570	23.3	349	15.0	919	19.2
Total	1797	100.0	1616	100.0	3413	100.0	2449	100.0	2328	100.0	4777	100.0

Note: Mann–Whitney U test: Comparison between cohorts 1932 and 1942, total figures: $p = .014$; Comparison between genders within cohort 1932: $p < .001$; Comparison between genders within cohort 1942: $p < .001$; Comparison between women in cohorts 1932 and 1942: *NS*; Comparison between men in cohorts 1932 and 1942: $p = .044$.

TABLE 6 Logistic regression model (Forward Conditional Method – final model) for the question 'Are you satisfied with the appearance of your teeth' dichotomised into (1) 'very satisfied' ($n = 1319$) and (2) 'yes, to large extent' or 'no, not especially/absolutely not satisfied' ($n = 7160$) as dependent variable.

	Unadjusted, 95% CI for OR				Adjusted, 95% CI for OR			
Variables and their dichotomisations	**OR**	***p***	**Lower**	**Upper**	**OR**	***p***	**Lower**	**Upper**
Year of birth: 1 = 1932; 2 = 1942	1.12	.05	1.00	1.27	1.16	.039	1.00	1.33
Gender: 1 = man; 2 = woman	1.12	.05	1.00	1.26	*NS*	-	-	-
Social contacts per week: 1 = >10; 2 = 0–10	1.13	.05	1.00	1.28	*NS*	-	-	-
Do you consider yourself healthy? 1 = Yes, absolutely/a great deal; 2 = No, not particular/absolutely not	1.51	<.001	1.30	1.75	*NS*	-	-	-
Self-judged health in relation to same-aged peers: 1 = Yes, much better/yes, a great deal better; 2 = Equal/worse/much worse	1.76	<.001	1.55	1.99	1.36	<.001	1.18	1.57
How many remaining teeth do you have? 1 = All teeth/missing a single tooth; 2 = Missing a large number/almost none left/edentulous	2.04	<.001	1.76	2.36	*NS*	-	-	-
Can you chew all kinds of food? 1 = Yes, very good; 2 = Yes, relatively good/not so good/bad	7.52	<.001	6.29	9.00	6.94	<.001	5.56	8.70
Minor aesthetic imperfections of the teeth have no importance, only they should function well: 1 = Agree completely/to a large extent; 2 = Do not fully agree/absolutely not	0.72	.001	0.589	0.88	0.71	.006	0.56	0.91
OIDP: 1 = No impact; 2 = Impact from any of the scale items from any of the eight questions	3.00	<.001	2.59	3.69	1.76	<.001	1.42	2.17
Do you have complete dentures in both jaws? 1 = Yes; 2 = No	1.53	.003	1.16	2.03	3.54	<.001	2.31	5.43
Do you have removable partial denture? 1 = Yes; 2 = No	0.46	<.001	0.35	0.60	*NS*	-	-	-

Note: In the adjusted model only those sociodemographic, general an oral health related variables and attitude questions with significance level of $p \leq .05$ in the unadjusted analysis were included.

over the last decade. At the same time, 75-year-olds have on average many years of their lives remaining, with Statistics Sweden predicting the average life expectancy for 75-year-old men in 2017 to be 11.6 years and for women 13.5 years.[25] It can be presumed that maintaining such a reportedly high level of satisfaction with dental appearance in the elderly in the years to come may be a challenge given the likely deteriorating socioeconomic, as well as general and oral health factors surrounding the elderly. Failing to do so may have a negative effect on their general well-being and quality of life as they become even older, as has been shown to be the case in Brazilian, Swedish and Norwegian older cohorts.[26,27]

The overall majority (>70%) of both men and women agreed that 'To have beautiful and perfect teeth is very important for how you are treated by other people', and without significant differences by gender or year-of-birth cohorts. It has been reported in some studies that women seem generally to be less satisfied with their dental appearance than men,[28,29] although other studies refute this.[30,31] In our study, 20.6% of women compared with 18.7% men expressed dissatisfaction with dental appearance in the 1932 cohort, the difference being not statistically significant; on the other hand, the difference in frequencies of 19.1% in women versus 16.3% in men in the 1942 cohort, was statistically significant. To the extent that women pay greater attention to their dental appearance, they also agreed to a significantly greater extent than men that 'a loss of a tooth that is visible is something to be ashamed of', but disagreeing that 'It does not matter how your mouth looks, as long as you can chew what you like'. The differences were small but in agreement with those found in older German people in that dissatisfaction with dental appearance was greater among women while both genders deemed the importance of dental appearance to overall appearance to be high.[24] It follows that dental aesthetic needs should be given due attention in the management of elderly patients and especially so in older women.

Although there were no major temporal changes when comparing the two cohorts born 10 years apart with reference to the global

question on satisfaction with dental appearance, there were differences in responses to the attitude statements. In this regard, the 1932 cohort agreed significantly more frequently than the 1942 cohort with the statements that 'To have beautiful and perfect teeth is very important for how you are treated by other people' and that 'A lost tooth that is visible is something to be ashamed of'. Correspondingly, the same cohort (1932) also disagreed more frequently that 'It does not matter how your mouth looks, as long as you can chew what you like'. The 1932 cohort was thus more concerned about dental appearance than those born 10 years later. One possible explanation is that the 1932 cohort would more likely, during their childhood and early adulthood, have encountered many more people with dental problems in terms of, for example, extensive tooth loss, caries and malocclusions, than those born 10 years later. The consequences of such earlier life experiences could be that they would not want to look the same; indeed, society may also have deemed such individuals as belonging to a less privileged group, for example, of low social and economic status, bearing in mind that access to dental care was both scarce and expensive. In contrast, children born in 1942, were all enrolled in the Swedish public health system that had started in 1938 offering free dental care to all children in the country. It may reasonably be said, therefore, that those born in 1942 might not have had the same negative experience, both personally and by observing those around them, of impaired oral health resulting in compromised dental appearance as all or most natural teeth would have been retained, and edentulism would have been relatively uncommon.[13]

In the regression analysis the dependent variable was dichotomised into 'very satisfied' versus the three remaining categories. The model was additionally tested by dichotomising the dependent into 'very satisfied/to large extent satisfied' versus 'not especially satisfied/absolutely not satisfied' and this model yielded similar results (data not shown). In the adjusted logistic regression, the highest OR (6.94) for predicting 'very satisfied' with dental appearance was good chewing function, which was not surprising as this might indirectly be associated with a larger number of remaining teeth and better nutritional status, amongst others. Only a few people had complete dentures in both jaws (7% and 2% in the 1932 and 1942 cohorts, respectively),[13] but it was still a strong predictor (OR 3.54) for being satisfied with dental appearance. Notwithstanding the other known negative sequelae of complete denture use, such individuals may generally be happier with the aesthetics of their prostheses than those with natural teeth as reported in previous studies.[32,33] The perception of having better self-judged general health compared with their same-aged peers was also predictive of having better satisfaction with dental appearance. Thus, as with the reported positive correlation between perception of dental appearance and psychological health,[34] the findings in this study show that a positive correlation also exists with perception of good general health and dental appearance. Impact from OIDP (OR 1.76) was also correlated with a less positive perception of appearance which was not surprising and has been previously extensively elaborated upon.[35]

Maintaining an age-adequate level of dental aesthetics facilitates better social interaction and fuller and more active engagement with society, thereby enhancing self-esteem, psychological well-being and quality of life for the elderly.[36] In order to achieve this, the dental healthcare system needs to pay attention to dental appearance in the elderly and allocate adequate resources comprising both preventive and appropriate restorative management strategies contextualised to the diverse socioeconomic environments surrounding the living circumstances of the elderly. Maintaining acceptable dental appearance in the elderly is important and could pose a clinical challenge considering the future demographic change in the ageing pyramid.

5 | CONCLUSION

In summary, about 80% of both cohorts of 75-year-old men and women were 'very satisfied' or 'to a large extent satisfied' with their dental appearance. Also, within the limitations of this study, the first hypothesis that the earlier-born generation (1932) would report less satisfaction and less concern about their dental appearance compared with the later-born generation (1942) was refuted. In this regard, there were only small differences between the two cohorts born 10 years apart as to the global question on perceived dental appearance and regarding attitudes, with the earlier-born generation (1932) being more concerned about dental appearance than the later-born generation (1942). The second hypothesis that women would be more concerned about their dental appearance than men was confirmed.

AUTHOR CONTRIBUTIONS

Investigation, project administration and data curation: Sannevik J, Mastrovito B; Formal analysis: Johansson A, Omar R, Carlsson GE, Sannevik J, Mastrovito B, Johansson AK; Writing original draft and final manuscript review/editing: Johansson A, Omar R, Carlsson GE, Sannevik J, Mastrovito B, Johansson AK.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest related to financial or other matters in this article.

DATA AVAILABILITY STATEMENT

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

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