

The community and orthodontic care

Part II: Community-perceived importance of correcting various dentofacial anomalies

Part III: Community perception of the importance of orthodontic treatment

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Abstract Part II

A professionally-managed telephone survey was undertaken to assess the community-perceived importance of correcting various dentofacial anomalies. The sample included 505 respondents, aged eighteen and over, from metropolitan and non-metropolitan households across the state of Victoria. The sample distribution had a 95 per cent confidence limit with a 5 per cent margin of error and closely matched the known population distributions for age, sex and geographical location. This article forms part two of a series. It was found that the correction of functional problems such as "difficulty chewing or speaking" was considered to be very important, regardless of age, sex or geographical area. The correction of other factors such as "top teeth which stick out in front", "bottom teeth which stick out in front" or "crooked or crowded front teeth" was also considered to be important. "Spaced front teeth" was the factor considered least important for correction within all groups. It is interesting to note that, for all factors, correction seemed to be considered more important by females and non-metropolitan respondents than by males and metropolitan respondents, respectively. In contrast to previous studies in which it has been suggested that patients seek treatment mainly for reasons of aesthetics, the results of this study have shown a definite community recognition of the importance of functional problems as well.

Aust J Orthod 1999; 15, 289-95

Key words: Correction of malocclusion, dentofacial anomalies, treatment priorities

Abstract Part III

A professionally-managed telephone survey was undertaken to assess the community's perceptions of the importance of having "straight teeth and a nice smile", to assess if a Medicare (the Australian government health benefit scheme) rebate should be provided for orthodontic treatment and to assess whether respondents had any private health insurance that would help cover the cost of orthodontic treatment. The sample included 505 respondents, aged eighteen and over, from metropolitan and non-metropolitan households across the state of Victoria. The sample distribution had a 95 per cent confidence limit with a 5 per cent margin of error and closely matched the known population distributions for age, sex and geographical location.

It was found that a very large percentage of respondents considered the need for "straight teeth and a nice smile" to be very important. This finding is supported by the many studies showing the importance of facial attractiveness to the lives of all people, young and old. Only a small percentage of respondents indicated that they had any private dental health insurance that would help cover the cost of orthodontic treatment, and over 70 per cent indicated that the government should provide some Medicare rebate for orthodontic treatment. Efforts should be made to inform those responsible for the planning of orthodontic services in both the public and private sectors of the importance of the community's perceptions of aesthetics, and the large amount of published work that reinforces the impact of facial attractiveness of people's lives.

Aust J Orthod 1999; 15 296-301

Key words: community perception, health insurance, importance of orthodontic treatment

Part II: Community-perceived importance of correcting various dentofacial anomalies

Introduction and Literature Review

In planning for the provision of orthodontic services within the public sector or for the provision of third party support for treatment carried out within the private sector, it is important to be aware, not only of professional assessments of treatment need, but also of community perception of the importance of correcting various aesthetic and functional problems. Obviously, the main goal of any health service should be to meet the needs of the public at large,¹ and if such information were available, treatment could more easily be targeted to areas considered to be of greatest importance. Unfortunately, while much has been written on professionally determined reasons for treatment,²⁻²⁴ little information is available at the present time regarding the Australian community's perception of the importance of correcting various dentofacial problems. The standards meaningful to the community may be quite different from those meaningful to orthodontists. Some orthodontic indices have attempted to reflect any such differences by including assessments also based on lay opinions.^{23, 25, 26} It has been reported that patients seek orthodontic treatment for aesthetic rather than functional reasons.^{1, 27, 28} This is perhaps because they acknowledge the importance of facial attractiveness in everyday life.²⁹⁻³¹ The present study was therefore designed to assess such community perception of the importance of correcting various dentofacial anomalies. It was conducted as part of a larger research effort involving the investigation of the community and its perception of Orthodontics.

Materials and methods

Overall survey and sample design

Approval for the overall project was sought and obtained from the Human Research Ethics Committee of the University of Melbourne. This article is Part II of a series of articles examining the community and orthodontic care from the community's perspective. The survey and sample design and the limitations of telephone surveys have been detailed in Part I.³² The study sought a summation of the various perceptions of reality by the respondents, rather than a validation of each respondent's individual reality. The sample included 505 respondents, aged eighteen and over, from metropolitan and non-metropolitan households across the state of Victoria. The sample distribution had a 95 per cent confidence limit with a 5 per cent margin of error and closely matched the known population distributions for age, sex and geographical location.³²

Questionnaire

The survey consisted of both orthodontically-related and sociodemographic questions. The sociodemographic data included age, sex and residential area. The format of the questions required either a "yes" or "no" response or one response selected from a choice of five graded categories. The question dealt with in this study is detailed below.

On a scale of 1 to 5, where 5 is the most important and 1 is the least important, rate the importance of correcting the following orthodontic problems:

Crooked or crowded front teeth

Spaced front teeth

Top teeth that stick out in front

Bottom teeth that stick out in front

Difficulty chewing or speaking

A very big or very small jaw

Data Analysis

Data for the entire sample was collected using a computer-assisted telephone interview system (CATI) and directly entered into a spreadsheet in SPSS* format. The data was then processed using AC Nielsen McNair's custom statistical package. Statistical analysis involved the weighting of the sample data by sex (male or female), age (18-24, 25-39, 40-54, 55+ years) and geographical area (Melbourne metropolitan, rest of Victoria) to obtain the weighted population responses, rounded to the nearest whole number, to the questions asked. The population estimates from the total sample of 505 respondents exhibit a 95 per cent confidence limit with no more than a 5 per cent margin of error. The margin of error increases to 6 per cent for gender, 8 per cent for area and 11 per cent for age, because of the decreasing numbers in each subgroup.³²

Results

Importance of correcting various dentofacial anomalies

Figure 1 and Tables I to VI detail the weighted responses, by percentage, to the question regarding the importance of correcting various factors. From the results, it can be seen that correcting "difficulty chewing or speaking" was rated as highly important by a large proportion of the community. Seventy-one per cent rated it in the most important category and over 90 per cent rated it in the top two categories. This was consistent regardless of sex, age or geographical location. Females, however, rated correcting "difficulty chewing or speaking" more highly than males. Similarly, non-metropolitan residents rated this factor more highly than did metropolitan respondents.

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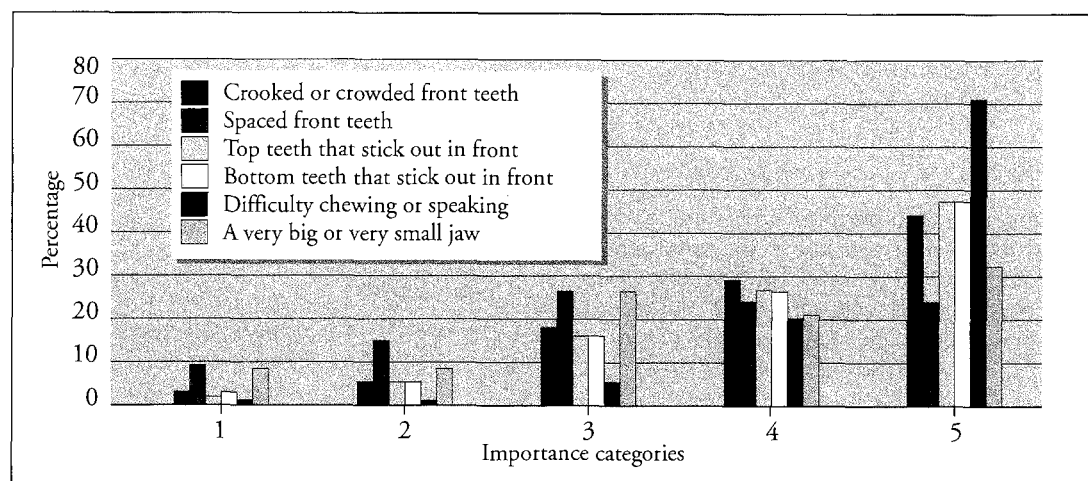


Figure 1. Weighted responses, by percentage, to the question "On a scale of 1 to 5 where 5 is most important and 1 is least important, rate the importance of correcting the following orthodontic problems".

Correcting "top" or "bottom teeth that stuck out in front" and "crooked or crowded front teeth" were also considered to be very important, with greater than 70 per cent of respondents rating these three factors in the highest two categories of importance. Once again, each of these factors was rated more highly by females and non-metropolitan respondents than by males and metropolitan respondents, respectively. Correcting "a very big or small jaw" was seen to be important within the community, but less so than the previous factors, with similar differences for sex and geographical location.

The factor rated least often as highly important, both in the overall sample and in the sex, age and geographical subgroups, was correcting "spaced front teeth", with 26 per cent rating it within the lowest two categories and only 48 per cent rating it within the highest two categories.

Discussion

The sample and its limitations

The size and distribution of the sample was sufficient to allow the sample statistics to reflect population estimates. This ensures that at a 95 per cent level of confidence, the estimates will be within 5 per cent of the true population proportions.³²

Importance of correcting various dentofacial anomalies

The fact that "difficulty chewing or speaking" seemed to be considered by the respondents in this study to be the most important factor to be corrected, does not support the findings of previous studies^{27, 28} in which it has been reported that most orthodontic patients seek treatment for reasons of aesthetics alone. While there was also considerable recognition of the importance of aesthetic factors

such as "crooked or crowded front teeth" and "top" or "bottom" teeth that stick out in front", it does show that there is wide-spread community recognition that "difficulty chewing or speaking", (that is, functional problems) is important and does warrant treatment. The question asked in this study did not actually address the reasons why respondents might seek treatment, but rather how important they regarded the correction of certain factors to be. Nevertheless, the response to this question implies that there is recognition of the need for functional problems to be corrected.

Community recognition of problems such as overbite, overjet and crowding supports the results of a previous study relating space and occlusal anomalies to body image and self concept.³³ In that study, unfavorable perception of teeth in both adolescents and adulthood were expressed more often significantly by those subjects with deep overbite, extreme overjet and crowding. The community rating of large overjets and significant crowding as important conditions requiring correction, corresponds quite well with the components of the treatment priority system currently being used within the public orthodontic system in Victoria where, amongst several other categories, overjets greater than 9 mm and crowding greater than 10 mm in any arch are deemed sufficient to warrant treatment within the public sector.³⁴ The figures also are consistent with those of a European study in which the respondents rated overjets of greater than 9 mm of a higher concern than overjets less than 6 millimetres.³⁵ It seems that there is at least some recognition within the public health planning system that both aesthetic and functional problems warrant correction.

One might have expected the need for correcting "a very big or very small jaw" to be of low importance; a significant number of respondents, however, considered this factor to be quite important. Females rated this correction more

Table I. Weighted responses, by percentage, of the importance of correcting "crooked or crowded front teeth".

	1 Least important	2	3	4	5 Most important	Don't know
Total	3	5	18	29	44	2
Sex						
Male	2	8	20	32	36	2
Female	4	3	15	25	51	2
Age						
18-24 years	4	9	19	33	33	2
25-39 years	1	6	21	29	43	1
40-54 years	4	4	20	36	35	1
55+ years	4	4	11	20	58	3
Geographical area						
Melbourne	3	5	18	30	42	2
Rest of Victoria	2	7	16	25	48	2

Table II. Weighted responses, by percentage, of the importance of correcting "spaced front teeth".

	1 Least important	2	3	4	5 Most important	Don't know
Total	9	15	26	24	24	2
Sex						
Male	9	18	25	26	20	2
Female	9	12	26	23	27	3
Age						
18-24 years	3	20	22	33	21	2
25-39 years	7	16	29	22	25	1
40-54 years	8	13	34	25	18	3
55+ years	16	13	16	22	30	3
Geographical area						
Melbourne	8	17	28	24	22	2
Rest of Victoria	11	9	20	27	30	3

Table III. Weighted responses, by percentage, of the importance of correcting "top teeth that stick out in front".

	1 Least important	2	3	4	5 Most important	Don't know
Total	2	5	16	27	47	2
Sex						
Male	3	8	21	29	37	2
Female	2	2	12	26	57	1
Age						
18-24 years	4	5	24	26	39	2
25-39 years	1	6	17	31	44	1
40-54 years	2	4	17	33	42	1
55+ years	3	4	10	19	59	3
Geographical area						
Melbourne	3	6	17	29	44	1
Rest of Victoria	2	3	14	23	55	2

Table IV. Weighted responses, by percentage, of the importance of correcting "bottom teeth that stick out in front".

	1 Least important	2	3	4	5 Most important	Don't know
Total	3	5	16	26	47	2
Sex						
Male	4	7	20	30	36	3
Female	3	4	13	22	57	2
Age						
18-24 years	4	5	31	29	29	2
25-39 years	2	6	16	32	44	
40-54 years	4	4	15	27	47	1
55+ years	5	6	11	17	57	5
Geographical area						
Melbourne	4	5	17	28	44	2
Rest of Victoria	2	5	16	21	53	2

Table V. Weighted responses, by percentage, of the importance of correcting "difficulty chewing or speaking".

	1 Least important	2	3	4	5 Most important	Don't know
Total	1	1	5	20	71	2
Sex						
Male	2	1	7	23	65	2
Female	1	1	3	17	77	2
Age						
18-24 years	3	1	8	21	65	2
25-39 years	2	1	1	22	74	
40-54 years	1	2	7	16	72	1
55+ years	1	5	20	69	4	
Geographical area						
Melbourne	1	1	5	21	69	2
Rest of Victoria	1	1	3	17	75	2

Table VI. Weighted responses, by percentage, of the importance of correcting a "very big or very small jaw".

	1 Least important	2	3	4	5 Most important	Don't know
Total	8	8	26	21	32	6
Sex						
Male	9	9	32	20	23	6
Female	6	6	21	21	40	6
Age						
18-24 years	6	5	28	28	29	3
25-39 years	2	11	28	22	34	3
40-54 years	8	4	27	25	29	7
55+ years	14	9	22	11	33	11
Geographical area						
Melbourne	7	7	28	21	30	6
Rest of Victoria	10	9	20	18	35	8

highly than males. It was not possible in this study to determine what respondents actually visualised as "a very big or very small jaw" or "top teeth that stick out in front", and for this reason it is not really possible to determine whether it was the fact that the top teeth might be sticking out too far or the lower jaw might be too small that was the visualised factor. The severity of either or both conditions would have some influence on a respondent's perceived need for correction. One must realise, however, that the purpose of this present investigation was not to assess subtleties of individual perception but rather to gain an impression of community-wide perceptions of malocclusion traits and their need for correction. Thus the broadness of such a description as "top teeth that stick out in front" allows slight variations in individual perception to be included while useful community information is being gathered, and these differences in individual perception will be reflected in the demand for orthodontic treatment.

The factor that seemed to be regarded as least important to be corrected was "spaced front teeth", which certainly coincides with the convention of ignoring spacing when using the dental health component of the IOTN and is also consistent with the materials accompanying the use of the aesthetic component of that index where a photograph of spaced front teeth describes the "slight need for treatment" and the "moderate/borderline need for treatment" scales.^{23, 36} No explanation has been given by the developers of the IOTN, however, of why the spaces appeared in those photographs. Therefore, one cannot be sure whether those spaces appeared coincidentally or whether malocclusions with spacing were actually chosen for those categories. The fact that the correction of spaced teeth might be considered less important than the correction of crowded teeth would also be supported by the findings of others who have reported that spaced teeth were of less concern to patients than crowded teeth.^{37, 38} The level of satisfaction of any individual with their teeth has also been reported to be inversely proportional to the incisor overjet.³⁷ While for the purpose of this discussion various components have been isolated, one should realise that anomalies such as large overjets and crowding often present together.

A previous study has suggested that there might be gender bias in the perceived significance of some traits of dental attractiveness.³⁹ In that study by Graber *et al.*, a large overjet was considered by females more important than crowding, whereas the opposite was true for males. Other workers have, however, found a gender bias to exist.^{40, 41} In the present study, a gender bias certainly was found, with females consistently rating traits more highly than males. Unfortunately, it is not possible at this time to relate this bias to actual numbers of females either seeking or receiving orthodontic treatment

in Australia, because there are no published figures in this area. Notwithstanding this fact, the figures from this study could be explained at least in part by the fact that females apparently do perceive the need for orthodontic treatment more than males⁴²⁻⁴⁴ and also actually receive more treatment than males.⁴⁵⁻⁴⁷

Non-metropolitan respondents rated all factors addressed in this study higher than their metropolitan counterparts. This is interesting because it has been suggested that there is somehow less demand for⁴³ and acceptance of⁴⁸ orthodontic treatment in non-urban regions or regions where orthodontic treatment is rare. It does point out, however, that there is considerable awareness of factors that might require orthodontic correction within communities quite distant from the Melbourne metropolitan area. One could question, however, just how "non-metropolitan", non-metropolitan respondents are within the small state of Victoria since many of the respondents would have lived close to quite large towns that might be well serviced by dentists and orthodontists. Modern electronic and print media also provides access to much information regardless of residential location.

Summary and conclusions

Taking into account the limitations of this study, it can be concluded from the results that:

Regardless of sex, age or geographical location it seems that, within the community, functional problems such as "difficulty chewing or speaking" are considered the most important factors for correction.

Other factors such as "top teeth that stick out in front", "bottom teeth that stick out in front" or "crooked or crowded front teeth" are also considered to be important factors for correction.

"Spaced front teeth", at least on its own, does not seem to be considered as highly important for correction.

Females may consider the correction of most factors to be more important. This would be consistent with a greater number of females seeking and receiving treatment, although no evidence of this has yet been published in Australia.

There is no evidence to suggest that subjects living outside the metropolitan area have any less recognition of various dentofacial problems or their potential need for correction.

The fact that, regardless of age, sex or demographic area, there is widespread recognition that there is a need for functional problems to be treated just as much as aesthetic problems. This information should be passed on formally to those responsible for planning for the provision of orthodontic services in the public sector and to those responsible for providing third-party support for treatment within the private sector.

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Part III: Community perception of the importance of orthodontic treatment

Introduction and literature review

It is widely accepted that a major reason for patients seeking orthodontic treatment is that of aesthetics.¹ In a public health system, however, not all patients seeking orthodontic treatment for reasons of aesthetics can be treated. The challenge is how to estimate the extent to which a particular malocclusion constitutes a psychological impairment, therefore requiring treatment within the public health system.² Consumer involvement in health care decision-making processes is presently in vogue and some orthodontic indices have been developed to reflect this involvement by incorporating lay opinions into the indices.³⁻⁵

Before planning to provide orthodontic services in either the public or private sectors, it should be understood how the community itself views the importance of orthodontic treatment and its outcomes. While previous studies have involved the investigation of treatment priority and need based largely upon professional opinion,³⁻²⁹ only a few researchers have actively sought information from the community itself.³⁰⁻³² Certainly, there is no detailed information available on how important the Australian community considers aesthetic factors such as straight teeth and pleasing smiles to be. There is also little available information on how widespread private health cover is for orthodontic treatment within the community. Similarly, community opinion regarding the provision of a Medicare (the Australian government health benefit scheme) rebate for orthodontic treatment is unknown. With all these things in mind, the present study was designed to seek information regarding community perception of the importance of "straight teeth and a nice smile" for children and adults, to determine the proportions of the community covered by private orthodontic insurance and to assess whether the community believes a Medicare rebate should be provided for orthodontic services. This study was conducted as part of a larger research effort involving the investigation of the community and its perception of Orthodontics.

Materials and methods

Overall survey and sample design

Approval for the overall project was sought and obtained from the Human Research Ethics Committee of the University of Melbourne. This article forms part three of a series of articles examining the community and orthodontic care

from the community's perspective. The survey and sample design and the limitations of telephone surveys have been detailed in Part I.³³ The sample included 505 respondents aged eighteen and over from non-metropolitan and metropolitan households across Victoria. The sample distribution had a 95 per cent confidence limit with a 5 per cent margin of error and closely matched the known population distribution for age, sex and geographical location.³³

Questionnaire

The survey consisted of both orthodontically-related and sociodemographic questions. The sociodemographic data included age, sex and residential area. The format of the questions required either a "yes" or "no" response, or one response selected from a choice of five graded categories. The questions dealt with in this study are detailed below.

1. On a scale of 1 to 5 where 5 is most important and 1 is least important, how important do you think it is or would be for your child to have straight teeth and a nice smile?
2. If respondent doesn't have children, then how important would it be if they did have children?
3. On a scale of 1 to 5 where 5 is most important and 1 is least important, how important do you think it is for you, yourself, to have straight teeth and a nice smile?
4. Do you have any private dental health insurance that would help cover the cost of orthodontic treatment?
5. Do you think the Government should provide a Medicare rebate for orthodontic treatment?

Data Analysis

Data for the entire sample was collected using a computer-assisted telephone interview system (CATI) and directly entered into a spreadsheet in SPSS* format. The data was then processed using AC Nielsen McNair's custom statistical package. Statistical analysis involved the weighting of the sample data by sex (male or female), age (18-24, 25-39, 40-54, 55+ years) and geographical area (Melbourne metropolitan, rest of Victoria) to obtain the weighted population responses, rounded to the nearest whole number, to the questions asked. The population estimates from the total sample of 505 respondents exhibits a 95 per cent confidence limit with no more than a 5 per cent margin of error. The margin of error increases to 6 per cent for sex, 8 per cent for area and 11 per cent for age because of the decreasing numbers in each subgroup.³³

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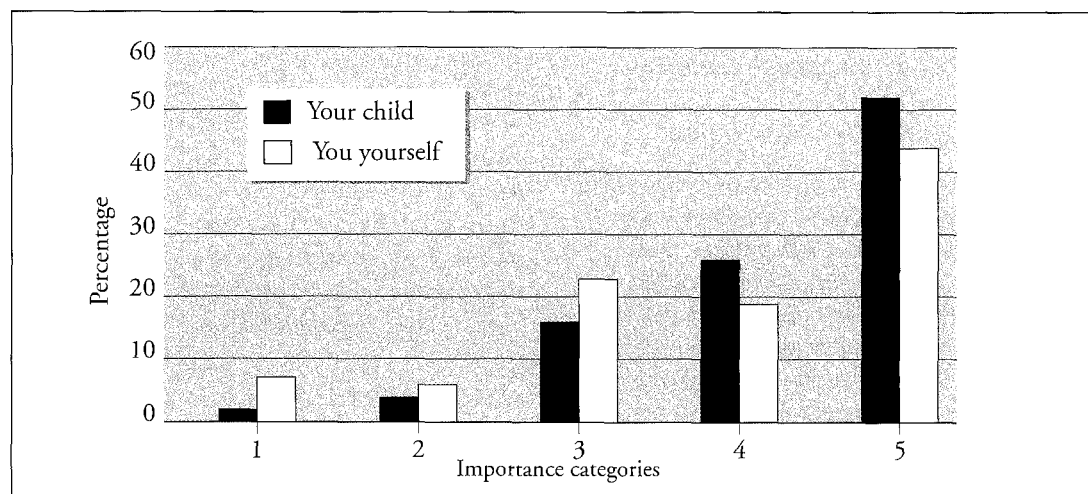


Figure 1. Weighted responses, by percentage, to the question "On a scale of 1 to 5 where 5 is most important and 1 is least important, rate the importance of correcting the following orthodontic problems".

Results

The importance of straight teeth and a nice smile

Figure 1 and Table I detail the weighted responses, by percentage, to the question "how important do you think it is, or would be, for your child to have straight teeth and a nice smile?" Within this sample the vast majority of respondents rated having "straight teeth and a nice smile" for their children as highly important. Fifty-two per cent rated it in the most important category and 26 per cent in the next most important category. It was interesting to note that similar percentages were found for males, females, metropolitan and non-metropolitan respondents. Differences occurred when the various age groups were assessed. There was a considerable difference between the 18–24 age group (41 %) and the 55+ age group (62 %).

Figure 1 and Table II detail the weighted responses, by percentage, to the question "how important do you think it is for you, yourself, to have straight teeth and a nice smile?" Once again, the majority of respondents in the overall sample rated these aesthetic factors as highly important for themselves, although slightly less than for their children, with 44 per cent in the highest group and 19 per cent in the second most important category. In contrast to the responses for the previous question regarding children of respondents, there appeared to be a difference in the responses of the females and males regarding the importance of these factors for themselves.

The prevalence of private dental health insurance covering orthodontic treatment

The majority of respondents (more than 70%) indicated that they had no private dental health cover that would help cover the costs of

orthodontic treatment (Figure 3 and Table III). The majority of respondents in each age group also indicated that they did not have relevant insurance, but in the 40–54 age group at least one-third of respondents indicated that they did have some insurance.

The provision of a Medicare rebate

Regardless of the sex, age group or geographical location, the majority of respondents indicated that the government should provide some Medicare rebate for orthodontic treatment (Figure 3 and Table IV).

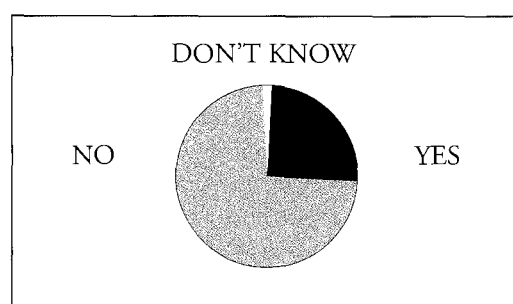


Figure 2. Weighted responses, by percentage, to the question "Do you have any private dental health insurance that would help cover the cost of orthodontic treatment?"

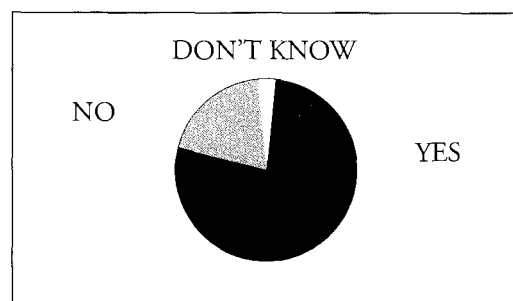


Figure 3. Weighted responses, by percentage, to the question "Do you think the government should provide a Medicare rebate for orthodontic treatment?"

Table I. Weighted responses, by percentage, to the question "How important do you think it is, or would be, for your child to have straight teeth and a nice smile?"

	1 Least Important	2	3	4 Most Important	5	Don't Know
Total	2	4	16	26	52	1
Sex						
Male	1	4	18	26	50	
Female	2	4	15	25	53	1
Age						
18–24 years	3	9	23	23	41	2
25–39 years	2	4	18	27	49	
40–54 years	1	3	15	32	48	1
55+ years	1	3	11	20	62	2
Geographical Area						
Melbourne	2	4	16	27	50	1
Rest of Victoria	1	3	16	23	56	1

Table II. Weighted responses, by percentage, to the question "How important do you think it is for you, yourself, to have straight teeth and a nice smile?"

	1 Least Important	2	3	4 Most Important	5	Don't Know
Total	7	6	23	19	44	1
Sex						
Male	7	7	26	20	39	1
Female	6	5	21	19	49	1
Age						
18–24 years	4	7	20	27	43	
25–39 years	6	6	25	17	44	1
40–54 years	6	6	28	26	33	1
55+ years	10	4	19	12	54	2
Geographical Area						
Melbourne	5	7	23	20	44	1
Rest of Victoria	10	4	23	17	45	1

Table III. Weighted responses, by percentage, to the question "Do you have any private dental health insurance that would help cover the cost of orthodontic treatment?"

	Yes	No	Don't Know
Total	25	73	2
Sex			
Male	29	70	1
Female	22	76	2
Age			
18–24 years	21	75	4
25–39 years	19	81	
40–54 years	35	64	1
55+ years	25	71	4
Geographical Area			
Melbourne	26	73	1
Rest of Victoria	25	73	2

Table IV. Weighted responses, by percentage, to the question "Do you think the government should provide a Medicare rebate for orthodontic treatment?"

	Yes	No	Don't Know
Total	77	19	4
Sex			
Male	74	20	6
Female	79	19	2
Age			
18–24 years	80	17	3
25–39 years	80	17	3
40–54 years	78	19	3
55+ years	71	23	6
Geographical Area			
Melbourne	77	21	3
Rest of Victoria	77	17	7

Discussion

The sample and its limitations

The size of the sample was sufficient to allow the sample statistics to reflect population estimates. This ensures that at a 95 per cent level of confidence, the estimates will be within 5 per cent of the true population proportions.³³

The importance of straight teeth and a nice smile

The fact that somewhat more respondents rated the importance of "straight teeth and a nice smile" for children in the two highest categories, and not for themselves, is supported by the results of a large number of previous studies that have shown that physical appearance has a great effect upon the way in which children see themselves or interact with other children and adults.³⁴⁻⁴⁴ For instance, it has been shown that teachers generally expect less from unattractive children,^{40, 41, 44} and that they also rate general behavioural and personality characteristics less favourably.⁴² Unattractive children are also more likely to be the victims of bullying.⁴³ The difference between the rated importance for children and adults may be due to the fact that adults, especially parents, want children to have greater opportunities in life than they had themselves.

The fact that the responses were quite similar in the metropolitan and non-metropolitan areas was somewhat unexpected, because it has been shown that the demand for orthodontic treatment is higher in urban communities than in rural communities.⁴⁵ It seems that from the results of this study undertaken in a state of relatively small geographical size, it is possible for respondents to receive the same influences regardless of whether they live in a metropolitan or non-metropolitan area.

It was interesting to note that the greatest "most important" response rate was for the 55+ age group. Perhaps the respondents in this age group may have already reared children and grandchildren and it is possible that the experiences gained while raising their own families have led to a realisation of the importance of facial aesthetics.

Reports in the literature indicating that females perceive the need for^{45, 46} and have received more orthodontic treatment than males,^{27, 47, 48} would support the findings of this study, that more females than males perceived "straight teeth and a nice smile" as more important for themselves. When indicating the importance for their children, there was no difference between males and females; once again highlighting the fact that facial attractiveness is perceived to play an important

part in the way in which children develop and are accepted in the community. While it was not included in this survey, it may well be interesting in the future to investigate whether the perceived importance of facial aesthetic factors is the same for both male and female children.

It is not surprising that the great majority of respondents in this sample indicated that aesthetic factors are important. It is well recognised that social adaptation, self esteem and the chances for success in life are influenced by facial attractiveness.^{1, 34-36, 49, 50} This in itself reflects a dilemma in our community because on one hand contemporary society does not want any discrimination between the attractive and unattractive yet, on the other hand, spends considerable time, money and effort in the pursuit of attractiveness. Recent changes in mass media delivery and the increasing use of visual stimuli have also probably contributed to the increased perception of the importance of attractiveness. Our findings are supported by the research which shows that the aesthetic component of malocclusion provides the most important consumer motive for seeking treatment.¹ There is even some evidence to suggest that adolescents may prefer straight teeth to healthy ones.⁵¹

A particular occlusal condition may actually be handicapping; not just functionally but in the way it adversely affects social relationships.⁵² Psychological concerns have also been shown to influence the need for orthodontic treatment and satisfaction with dental appearance.³⁰ It has been shown that simply acknowledging that one's physical attractiveness affects both the quality and course of one's life causes many people discomfort.³⁵ It is well known that in most situations physically attractive people are believed to be more sensitive, kind, interesting, strong, poised, modest, sociable, outgoing, exciting and sexually warm and responsive. In addition, it is believed that attractive people will capture better jobs, have more successful marriages and experience happier and more fulfilling lives than less attractive people.^{37, 39, 53} Unfortunately, a number of studies have shown that physically unattractive people make less favourable first impressions than attractive ones, and that their interactions with others are uncertain and uneasy.^{54, 55}

Rightly or wrongly, in most cultures facial appearance does make a difference.⁵⁶ Persons judged by others to be more attractive receive preferential treatment and may have more success in their jobs and interpersonal relationships.^{1, 34, 35, 37, 39, 47} While in the current politically-correct environment there may be reluctance to admit these facts, all these studies indicate that there is strong evidence that the way others perceive beauty, or the lack of it, in a person's face affects that person's path through life.

The prevalence of private dental health insurance covering orthodontic treatment

Despite the fact that the great majority of respondents indicated that facial aesthetic factors were very important for both children and adults, only a small percentage indicated that they actually had private health insurance that would help cover some of the cost of orthodontic treatment. While respondents were not asked to give reasons for their choice, there is obviously not a widespread acceptance of the cost benefit of such insurance. This might be due to the fact that even the highest total orthodontic rebate available would cover barely half the cost of routine comprehensive orthodontic treatment within the private sector. The 40–54 age group did seem to have more private orthodontic cover than the other age groups. This may well be related to the fact that the families of these respondents would be most likely to include teenage children requiring orthodontic treatment. Overall, it is not surprising that so few people have private cover for extra health services when one considers that health fund premiums are not tax deductible in Australia and that the proportion of the Australian population having health insurance has declined steadily since the introduction of Medicare,^{57–59} which is a taxpayer-funded public health initiative.

The provision of a Medicare rebate

Considering that the great majority of respondents rated aesthetic facial factors as being very important, it is not surprising a similar percentage indicated that the government should provide a Medicare rebate for orthodontic treatment. This may indicate a general perception that as much as possible should be provided by the government. On the other hand, it may well be a reflection of the acceptance within the community that facial attractiveness plays an important role in all our lives. Such a Medicare rebate is, however, unlikely to be provided in the short term, largely because orofacial attractiveness is related to dental factors rather than medical factors. As long as government planners regard facial aesthetic improvement as unnecessary, despite strong evidence to the contrary, and as long as Dentistry is considered separately from Medicine, the recognition that facial aesthetic factors are important will not be reflected in the provision of government support. It is, therefore, the responsibility of researchers and professional lobby groups to attempt to influence those responsible for the planning of the provision of orthodontic services so that either more financial support is provided for orthodontic treatment in the private sector or more orthodontic treatment is provided in the public sector. Obviously, these improvements would have to be examined in detail before dealing with other issues, such as that of differential rebates for general and specialist practitioners.

Summary and conclusions

Taking into account the limitations of this study, it can be concluded from the results that:

1. The great majority of the adult population, regardless of age, sex or geographical location, considers the need for "straight teeth and a nice smile" as very important for children.
2. A similar, although slightly less, majority also considers these aesthetic factors to be important for themselves.
3. Only a small percentage of families have any private dental health insurance that would help cover some of the cost of orthodontic treatment. It seems that those families that are likely to include teenage children are more likely to have such cover, although this percentage is still likely to be no greater than 30 per cent. For one reason or another the community perception of the cost benefit ratio of both treatment and health insurance to cover it is unfavourable.
4. A large proportion believe that there should be some government support for the practice of Orthodontics in the private sector. While no definite reasons were solicited in this study, this finding does reflect the importance given to the need for "straight teeth and a nice smile".
5. Since there is such a high acceptance of the importance of aesthetic facial factors within the community, those responsible for the planning of orthodontic treatment within both the public and private sectors must be made aware of the community's opinion and also of the large volume of evidence to support the importance of facial attractiveness in people's lives.

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