Translation and validation of the Arabic version of the Psychosocial Impact of Dental Aesthetics Questionnaire (PIDAQ)

Rayan Abdullah Alharbi[1], Rawah Talal Eshky[2], Shahad Omar Marae[1], Tamer Hifnawy[3,4] and Mahmoud Alsulaimani[2]

Abstract:

OBJECTIVES: To develop and test the validity and reliability of an Arabic version of the psychosocial impact of dental aesthetics questionnaire (PIDAQ).

MATERIALS AND METHODS: The original English version was translated into Arabic, back-translated, pre-tested, and cross-culturally adapted before being administered to 205 individuals aged between 18–30 years from Medina, Saudi Arabia. Cronbach's alpha coefficient was used to test internal consistency, and the intraclass correlation coefficient (ICC) was used to assess test–retest reliability. Construct validity was assessed using factor analysis, and convergent validity was tested by comparing PIDAQ scores to the aesthetic components of the Dental Aesthetic Index (DAI) and Aesthetic Component of the Index of Orthodontic Treatment Need (IOTN-AC), while discriminant validity was assessed by comparing PIDAQ scores to participants' self-evaluation of orthodontic treatment need. Gender and age differences in the PIDAQ score were assessed.

RESULTS: Cronbach's alpha coefficient was 0.940, corrected item-total correlation coefficients were between 0.509 and 0.719, and the ICC was 0.937. Principal component factor analysis extracted three domains, and factor loading ranged from 0.563 to 0.843. Total PIDAQ score and subscale scores had significant correlations with the DAI and IOTN-AC. The questionnaire discriminated well between participants who had a perceived need for orthodontic treatment and those with no perceived need. There were no significant age or gender differences in participants' PIDAQ scores.

CONCLUSIONS: The Arabic version of the PIDAQ had excellent psychometric properties with sufficient reliability and validity to be used for the assessment of the orthodontic-related quality of life in young Arab adults.

Keywords:

Aesthetics, Arabic psychometric tool, malocclusion, oral health-related quality of life, orthodontics

[1]College of Dentistry, Taibah University, [2]Department of Orthodontics and Pediatric Dentistry, College of Dentistry, Taibah University, [3]Department of Medical Education, College of Dentistry, Taibah University, Medina, Saudi Arabia, [4]Department of Public Health, Faculty of Medicine, Beni-Suef University, Beni Suef, Egypt

Address for correspondence:
Dr. Rayan Abdullah Alharbi, College of Dentistry, Taibah University, Medina - 42353, Saudi Arabia. E-mail: rayanalharbi03@gmail.com

Introduction

The concept of oral health-related quality of life (OHRQoL) describes how oral health conditions affect individuals' general health and psychosocial well-being.[1,2] Oral health problems, such as malocclusion, negatively impact patients' quality of life.[3] Malocclusion affects not only patients' facial appearance and oral function but also their social interaction and self-confidence.[4] The social and psychological impacts of malocclusion are usually the major factors that motivate patients to seek orthodontic care.[5] An ideal orthodontic assessment, therefore, should allow for a subjective evaluation of OHRQoL, including patients' satisfaction concerning their malocclusion.[6] Assessing OHRQoL related to malocclusion provides a valid parameter to evaluate

patients' perceptions of their need for orthodontic treatment[7,8] and to focus on appropriate treatment goals and outcomes beyond the limits of traditional clinician-based diagnostic measurements.[9]

Increased focus on the importance of OHRQoL for dental research and clinical practice has resulted in the development of various instruments to measure such information.[10] In 2006, Klages *et al*.[11] developed a questionnaire called the psychosocial impact of dental aesthetics questionnaire (PIDAQ), which is a valuable tool that measures OHRQoL in orthodontic patients. The PIDAQ gives valid and reliable information on patients' perceptions of their psychosocial well-being in terms of malocclusion. The PIDAQ was originally constructed to measure OHRQoL relating to malocclusion in young adults, as they are generally more concerned about aesthetics than older age groups and have a more stable self-concept than younger individuals.[11]

The PIDAQ, like most questionnaires, was developed in the English language, so the application of this tool in non-English speaking countries requires the development of an appropriate translation, including cultural and social adaptation without the loss of its psychometric properties.[12] Many translated versions of the PIDAQ have been developed and tested for their reliability and validity.[12-15] However, to the authors' best knowledge, there is no Modern Standard Arabic version of the PIDAQ. Modern Standard Arabic is the official language in all Arab countries, which includes most countries in the Middle East and North Africa. A Moroccan Arabic version of the PIDAQ has been published,[14] but this version was designed in Moroccan Arabic dialect, which restricts its use to the Moroccan population. A large number of people worldwide have Arabic as their first language, and this type of questionnaire is important, so the main aim of this study was to provide a psychosocial tool in Modern Standard Arabic that assesses orthodontics-related OHRQoL by translating, validating, and culturally adapting the original PIDAQ for young Arab adults.

Materials and Methods

Ethics approval
This study was a descriptive cross-sectional validation study. The Research Ethics Committee of Taibah University College of Dentistry (TUCD-REC) approved this study with reference number (TUCDREC2017O329RAHarbi). All participants were volunteers and written informed consent was obtained before examinations and questionnaire administration.

PIDAQ description
The PIDAQ is a 23-item psychometric scale.[11] The original version is composed of four subscales. These include one positive domain, dental self-confidence (six items), and three negative domains, social impact (eight items), psychological impact (six items), and esthetic concern (three items). A 5-point Likert scale is used for each item from 0 (not at all) to 1 (a little), 2 (somewhat), 3 (strongly), and 4 (very strongly). A score of 0 means that the item has no impact on the quality of life, while a score of 4 means that the item has the maximum impact on the quality of life. Scores from the positive domain are reversed to align them with scores from the other domains to produce a consistent measure of impact and to facilitate interpretation of the results.

Development of the Arabic version of the PIDAQ
Translation
The questionnaire was independently translated into Modern Standard Arabic by an orthodontist, a postgraduate dental student, and a dental student, all of whom were proficient in English and Arabic. The three versions were then discussed and evaluated. A translation for every item was agreed, forming the initial draft of the Arabic version of the PIDAQ.

Back translation
The draft was independently back-translated into English by two bilingual English teachers, both of whom were uninformed about the original scale. After back-translation, the teachers were given the original English version of the PIDAQ, which they compared with the back-translation, modifying it as necessary. This produced version I of the Arabic version of the PIDAQ.

Cross-cultural adaptation
A linguist, an orthodontist, and postgraduate dental students were asked for their comments on the popularity, clarity, and accuracy of the version I in terms of cultural relevance and purpose. After semantic and conceptual equivalence were assessed in comparison to the original questionnaire, version II of the Arabic of the PIDAQ was produced.

Pre-testing
Version II of the Arabic version of the PIDAQ was subjected to pilot testing with 16 young adults aged between 18 and 30 years (8 males and 8 females). Participants were asked what they understood of each item. The pilot test demonstrated that version II of the Arabic version of the PIDAQ had appropriate semantic and conceptual equivalence to the original tool with no need for further modification. Therefore, the final Arabic version of the PIDAQ was produced [Appendix].

Survey population
The study sample was composed of young adults with an age range from 18 to 30 years. In total, the study included 205 individuals, comprising both Saudis and

non-Saudis (those with other Arabic nationalities) from Medina city, Saudi Arabia. Participation in the research was voluntary, and participants were visitors of Al Rashid Mega Mall during public awareness campaigns held on World Oral Health Days. Individuals with moderately to severely discolored anterior teeth, craniofacial anomalies, or previous orthodontic treatment were excluded from the survey. The survey used the final Arabic version of the PIDAQ, the aesthetic component of the Index of Orthodontic Treatment Need (IOTN-AC), and the Dental Aesthetic Index (DAI). All participants were asked if they perceived a need for orthodontic treatment. After 1 month, 18 participants were randomly selected for the retest.

Esthetic component of Index of Orthodontic Treatment Need (IOTN-AC)

To assess participants' perception of dental esthetics and the severity of malocclusion, the IOTN-AC was used. This gave participants an unlimited amount of time to identify the photograph that most closely resembled their dentition from a sample of 10 black and white photographs that displayed varying degrees of malocclusion of the anterior teeth.[16] The sample was divided into three groups of photographs, grades 1 to 4 (no or little treatment need), grades 5 to 7 (moderate or borderline treatment need), and grades 8 to 10 (definite treatment need).

Dental Aesthetic Index (DAI)

The World Health Organization has recommended using the DAI to assess orthodontic treatment need.[17] The DAI used for the assessment of aesthetic and clinical aspects of occlusion assesses 10 occlusal characteristics that evaluate malocclusion.[18] The DAI score consists of four grades. Grade 1 (a score of 25 or less) indicates no or slight treatment need, grade 2 (a score from 26 to 30) indicates elective treatment need, grade 3 (a score from 31 to 35) indicates that treatment is highly desirable, and grade 4 (a score of 36 or more) indicates mandatory treatment.[19]

Statistical analysis

Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS Inc., version 23, Chicago, IL, USA). The reliability of the scale was determined by testing internal consistency using Cronbach's alpha coefficient, Cronbach's alpha if item deleted, and the coefficient of correlation between items and the scale. The scale was considered reliable when alpha was more than 0.7. Test–retest reliability was assessed using the intraclass correlation coefficient (ICC).

Construct validity was assessed using factor analysis. The Kolmogorov–Smirnov test was conducted to check the normality of the variables. The data were not normally distributed. Therefore, non-parametric tests were applied. Convergent validity was assessed by comparing the total PIDAQ score and subscale scores with DAI grades and self-reported IOTN-AC scores using the Kruskal–Wallis test, while discriminant validity was tested using the Mann–Whitney test to compare PIDAQ scores with participants' self-evaluation of orthodontic treatment need. Other Mann–Whitney tests were used to compare the total PIDAQ score and subscale scores between males and females, while the Kruskal–Wallis test was used to compare the scores between three age groups (18–22 years, 23–26 years, and 27–30 years). All *P* values were considered significant when they were smaller than 0.05.

Results

A total of 205 young adults between 18 and 30 years old (mean age 23.93 ± 3.86) were included in this study. There was a 100% response rate and no missing data. Age and gender distribution within groups has been shown in [Table 1]. There were 108 (53.7%) Saudis and 97 (47.3%) non-Saudis (those with other Arabic nationalities). Of all participants, 114 (55.6%) perceived a need for treatment, whereas 91 (44.4%) perceived no need for treatment. Test-retest reliability was assessed by comparing data from 18 individuals with data obtained from them a month later.

Reliability

The internal consistency of the scale, evaluated by Cronbach's alpha coefficient, was 0.940, and the standardized Cronbach's alpha was 0.941. The values of Cronbach's alpha if item deleted ranged from 0.935 to 0.939 [Table 2]. Item and scale correlation coefficients were between *r* = 0.509 and *r* = 0.719. Principal component factor analysis extracted three subscales. Cronbach's alpha coefficients for the three subscales were 0.923 for social impact, 0.916 for dental self-confidence, and 0.892 for aesthetic attitude.

Reproducibility

Test–retest reliability, according to the ICC, was 0.937, and the ICCs of the three subscales were 0.948, 0.940, and 0.929.

Table 1: Age and gender groups distribution of the sample

Characteristics	*n* (%)
Age groups	
(18-22 years)	78 (38.0%)
(23-26 years)	67 (32.7%)
(27-30 years)	60 (29.3%)
Gender groups	
Male	98 (47.8%)
female	107 (52.2%)

Construct validity

In the factor analysis, the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.935, Bartlett's test of sphericity was 3037.6 ($P < 0.001$), and three common factors were extracted with factor loadings from 0.563 to 0.843. The first factor contained items one to nine, which reflected the social impact of dental aesthetics. The second factor included items ten to fifteen of the original dental self-confidence subscale items. The third factor contained items 16 to 23, representing the impact of teeth appearance on aesthetic attitude. The cumulative variance for these three factors was 63.33% [Table 2].

Convergent validity

Statistically significant correlations ($P < 0.001$) were found in all total PIDAQ scores and all subscale scores when compared to IOTN-AC and DAI scores [Tables 3 and 4].

Discriminant validity

Significant differences were found ($P < 0.001$) by comparing total PIDAQ score and subscale scores according to participants' self-evaluation of orthodontic treatment need. All individuals in the perceived need group showed a significantly higher total PIDAQ score and significantly higher subscale scores when compared to those who perceived no need for orthodontic treatment [Table 5].

There were no significant differences in total PIDAQ score or subscale scores between males and females and between age groups [Table 6].

Discussion

In recent years, attention has been paid to using the concept of OHRQoL to improve clinical orthodontic practice and research.[20,21] The PIDAQ has proven

Table 2: Principal component analysis with an orthogonal rotation of PIDAQ scale and factor loadings of the items, cumulative variance for extracted factors, and α when item deleted

Items in brief	Social impact	Dental self-confidence	Aesthetic attitude	α when item deleted
Hold back when I smile	**0.739**	0.181	0.131	0.937
What others think	**0.772**	0.203	0.189	0.936
Offensive remarks	**0.766**	0.102	0.337	0.937
Inhibited in social contacts	**0.649**	0.098	0.366	0.935
Hide my teeth	**0.703**	0.107	0.277	0.937
People stare	**0.705**	-0.038	0.289	0.937
Irritated on remarks	**0.706**	0.131	0.261	0.936
Worry about opposite sex	**0.745**	0.041	0.340	0.936
Others have nicer teeth	**0.802**	0.181	0.218	0.937
Proud of teeth	0.122	**0.804**	0.211	0.938
Like to show teeth	0.113	**0.800**	0.208	0.938
Pleased to see teeth in mirror	0.121	**0.808**	0.194	0.938
Teeth are attractive	0.028	**0.787**	0.220	0.939
Satisfied with appearance	0.139	**0.843**	0.247	0.937
Find tooth position nice	0.145	**0.795**	0.121	0.938
Envy	0.220	0.142	**0.762**	0.937
Somewhat distressed	0.363	0.204	**0.694**	0.936
Somewhat unhappy	0.262	0.245	**0.584**	0.937
Feel bad	0.370	0.216	**0.697**	0.935
Wish teeth looked better	0.229	0.305	**0.563**	0.937
Don't like teeth in mirror	0.321	0.215	**0.622**	0.937
Don't like teeth in photo	0.282	0.285	**0.682**	0.936
Don't like teeth on video	0.304	0.177	**0.678**	0.936
Percentage of Cumulative variance explained (rotated solution)	24.503	43.938	63.329	

In bold: Salient factor loadings

Table 3: Comparison between scores of PIDAQ scale with a different IOTN-AC scores using Kruskal–Wallis tests

PIDAQ scores	IOTN AC self-rating score			
	Score 1-4 (*n*=107)	Score 5-7 (*n*=56)	Score 8-10 (*n*=42)	*P*
Social Impact (Mean±SD)	6.74±6.58	8.59±5.90	14.05±9.44	< 0.001
Dental Self-Confidence (Mean±SD)	11.48±5.72	11.52±6.13	15.67±6.05	< 0.001
Esthetics attitude (Mean±SD)	8.07±6.63	9.68±6.78	15.14±7.96	< 0.001
Total PIDAQ (Mean±SD)	26.29±15.60	29.88±15.37	44.86±18.28	< 0.001

SD: Standard Deviation; PIDAQ: Psychosocial Impact of Dental Aesthetics Questionnaire; IOTN-AC: Index of Orthodontic Treatment Need

to be a valuable tool for measuring OHRQoL in English-speaking orthodontic patients.[11] This study aimed to provide a version of the PIDAQ for young Arab adults. To make the questionnaire available for different cultural contexts while maintaining its psychometric properties, the original version of PIDAQ was not only translated into Modern Standard Arabic but also subjected to a cross-cultural adaptation process as suggested by the Project of International Quality of Life Assessment.[22]

The process of translating the PIDAQ was a meticulous four-step procedure that included translation, back-translation, cultural adaptation, and pre-testing. The Translation Committee was composed of an orthodontist, a postgraduate dental student, and a dental student, all of whom were proficient in English and Arabic. The translation process considered the suitability of the translated version for a wide range of Arabic dialects, Arabic nationalities, and the different levels of education present in the sample. Therefore, simple Modern Standard Arabic was used in the questionnaire. Back-translation from Arabic to English was conducted by two bilingual English teachers. A comparison of the back-translated version with the original showed a high level of similarity. The Cultural Adaptation Committee was composed of a linguist, an orthodontist,

and postgraduate dental students. The translated questionnaire was evaluated for its agreement with the original version regarding semantic and conceptual equivalence. The expression of one term (envy) gave a feeling of hostility when translated into Arabic, so an Arabic synonym was used for this term. The results of the pre-test indicated that the quality of the translation was appropriate and adequate.

The internal consistency of the Arabic version was good. Cronbach's alpha coefficient was 0.940, which is higher than the 0.7 threshold[23] and higher than the original and Spanish versions of the PIDAQ.[11,24] The alpha if item deleted coefficient signified good internal consistency of items because deletion of any item did not improve Cronbach's alpha. Corrected item-total correlation indicated that all items were significantly correlated with each other, as it was more than 0.5 for every item and ranged from 0.509 to 0.719. Test-retest reliability was high (0.937), which demonstrated the excellent reliability of the Arabic version of the PIDAQ.

Construct validity was assessed using factor analysis. When subjecting the 23 items to principal component factor analysis with orthogonal rotation, three common factors were extracted. The first extracted common factor, social impact, consisted of nine items, which

Table 4: Comparison between scores of PIDAQ scale with different DAI grades using Kruskal-Wallis tests

PIDAQ scores	Dental Aesthetic Index grade				
	Grade 1 (*n*=74)	Grade 2 (*n*=49)	Grade 3 (*n*=45)	Grade 4 (*n*=37)	*P*
Social Impact (Mean±SD)	5.84±5.92	8.18±5.43	9.60±7.77	14.24±9.64	< 0.001
Dental Self-Confidence (Mean±SD)	10.54±5.76	12.06±5.61	12.78±6.34	15.81±5.83	< 0.001
Esthetics attitude (Mean±SD)	7.46±6.71	9.53±6.29	11.16±7.22	14.08±8.57	< 0.001
Total PIDAQ (Mean±SD)	23.84±15.39	29.88±12.85	33.53±17.31	44.14±19.79	< 0.001

SD: Standard Deviation; PIDAQ: Psychosocial Impact of Dental Aesthetics Questionnaire; DAI: Dental Aesthetic Index

Table 5: Mann-Whitney test of total PIDAQ and subscales scores between perceived need group and perceived no need group

PIDAQ scores	Perception of orthodontic treatment need		
	Perceived need (*n*=114)	Perceived no need (*n*=91)	*P*
Social Impact (Mean±SD)	10.17±7.60	6.96±7.25	< 0.001
Dental Self-Confidence (Mean±SD)	13.98±6.00	10.30±5.64	< 0.001
Esthetics attitude (Mean±SD)	11.85±7.74	7.59±6.32	< 0.001
Total PIDAQ (Mean±SD)	36.04±17.52	24.85±15.63	< 0.001

SD: Standard Deviation; PIDAQ: Psychosocial Impact of Dental Aesthetics Questionnaire

Table 6: Differences in total PIDAQ and subscales scores between age groups using Kruskal-Wallis tests, and between gender groups using Mann-Whitney test

PIDAQ scores	Age groups				Gander groups		
	18-22 years (*n*=78)	23-26 years (*n*=67)	27-30 years (*n*=60)	*P*	Males (*n*=98)	Females (*n*=107)	*P*
Social Impact (Mean±SD)	8.53±7.49	8.87±7.62	8.88±7.83	0.969	7.80±6.96	9.61±8.07	0.138
Dental Self-Confidence (Mean±SD)	12.13±5.96	11.76±6.87	13.28±5.35	0.391	11.84±6.02	12.81±6.18	0.235
Esthetics attitude (Mean±SD)	9.62±7.23	9.58±8.00	10.83±7.10	0.358	9.37±6.52	10.50±8.19	0.591
Total PIDAQ (Mean±SD)	30.33±17.34	30.21±18.80	33.00±16.59	0.485	29.00±15.34	32.97±19.28	0.263

SD: Standard Deviation; PIDAQ: Psychosocial Impact of Dental Aesthetics Questionnaire

contained the same eight items of the corresponding dimension of the original version, plus a ninth item, "I think most people I know have nicer teeth than I do," which was under "psychological impact" in the original version of the PIDAQ. The second common factor, dental self-confidence, was composed of the same items of the corresponding dimension of the original version of the PIDAQ. The third common factor contained all items of the psychological impact and aesthetic concern dimensions of the original version except one item, "I think most people I know have nicer teeth than I do," which was included in the first common factor. Results for the third common factor were almost the same as those of the Chinese version of the PIDAQ, which grouped psychological impact and aesthetic concern within one common factor named "aesthetics attitude," because the word "attitude" represented the meaning of both factors.[15]

Using a threshold of eigenvalues greater than 1, factor analysis with orthogonal rotation resulted in the extraction of three common factors. Factor analysis with the number of factors fixed at four resulted in just one item being included in the fourth factor, which was "I wish my teeth looked better." This result seemed unreasonable because this item was in the third factor in the original version and should not be divided. Overall, three factors had better item factor loading and more reasonable results.

As mentioned before, the three common factors in the Arabic version of the PIDAQ were similar to those found in the Chinese version[15] but were different from the four domains found in the original and the Spanish and Turkish versions. However, the cumulative variance for the three factors model was 63.33%, which was higher than the cumulative variance of the four-factor models of the other PIDAQ versions.[11,13,24] This means that the Arabic version of the PIDAQ had good construct validity, and differences in the distribution of items and the number of domains between the Arabic version and other versions, including the original, may be attributed to variations in cultural background, style of expression, and the Arab population's perception and understanding of items.

Convergent validity of the Arabic version of the PIDAQ was assessed using the IOTN-AC and DAI. Results indicated good convergent validity of the scale because the total PIDAQ score and its subscale values correlated significantly with IOTN-AC and DAI values, where higher IOTN-AC and DAI values correlated with higher PIDAQ values [Tables 3 and 4]. Moreover, the scale had good discriminant validity in all groups included in this study as shown by the significantly higher total PIDAQ score and higher subscale scores for all individuals who perceived a need for orthodontic treatment, compared to those who perceived no need for orthodontic treatment [Table 5].

When comparisons were made between males and females and between age groups, results showed no statistically significant differences in total PIDAQ score or subscale scores [Table 6]. A similar conclusion was reported in the literature.[11,25] However, results regarding gender differences disagreed with those of two previous studies, which found that females expressed more impact of malocclusion than males in psychological impact[26] and social impact subscales.[27] However, another study found no difference in impact between males and females, though it reported that the younger the age, the more the psychological effect.[9] Cultural differences between populations and differences in age groups, sample sizes, distribution of items, and the number of domains between PIDAQ versions might explain such disagreement.

This study was conducted in Medina city, which contains adequate cultural and ethnic diversity because it included a large number of different Arabic nationalities. People from different parts of this city usually attend the location in which the population was sampled; therefore, the sample was considered representative of the target population.

Conclusion

The Arabic version of the PIDAQ developed in this study demonstrated excellent psychometric properties with sufficient reliability and validity. This questionnaire provides a useful tool to evaluate the OHRQoL of orthodontic patients in the young adult Arabic-speaking population to assess treatment needs and changes in orthodontic-related OHRQoL during treatment and to enhance treatment outcomes. This tool has the potential to improve orthodontic research and clinical applications related to malocclusion and its social and psychological impacts as perceived by patients.

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Conflicts of interest

There are no conflicts of interest.

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Appendix

Arabic version of PIDAQ

0= أبدا، 1= أحيانا، 2= إلى حد ما، 3= كثيرا، 4=كثيرا جدا

| 4 | 3 | 2 | 1 | 0 |

الثقة بالنفس المتعلقة بالأسنان

1. أنا فخور بأسناني

2. أحب أن أظهر أسناني عندما أبتسم

3. أنا راض عن أسناني عندما أراها في المرآه

4. أسناني جذابة للآخرين

5. أنا راض عن مظهر أسناني

6. يعجبني ترتيب وانتظام أسناني الحالي

التأثير الاجتماعي

7. أتراجع عندما ابتسم لكيلا تظهر أسناني بشكل كبير

8. عندما أكون مع أشخاص لا أعرفهم جيدا أقلق أحيانا حول رأيهم واعتقادهم بأسناني

9. أخاف أن يقول الناس تعليقات سيئة عن أسناني

10. أنا نوعا ما أقل في التواصل الاجتماعي بسبب أسناني

11. أحيانا أضع يدي أمام فمي لإخفاء أسناني

12. أحيانا أعتقد بأن الناس يحدقون في أسناني

13. التعليقات على أسناني تزعجني حتى وإن كانت على سبيل المزح

14. أحيانا أقلق حول رأي الجنس الآخر بأسناني

15. أعتقد ان معظم الناس الذين أعرفهم لديهم أسنان أجمل من اسناني

السلوك الجمالي

16. أحسد أو أغبط الناس الذين لديهم أسنان جميلة

17. أحيانا أكون محبطا عندما أرى أسنان الآخرين

18. في بعض الأحيان أكون غير سعيد بمظهر أسناني

19. أشعر بالسوء عندما أفكر كيف تبدو أسناني

20. أتمنى لو أن أسناني كانت تبدو بشكل أفضل

21. لا أحب أن أرى أسناني في المرآة

22. لا أحب أن أرى أسناني في الصور

23. لا أحب أن أرى أسناني عندما أشاهد فيديو لنفسي