

# Is self-perception of oral health associated with expectations of employability?

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**Abstract:** The aim of this study was to develop and validate a questionnaire that allows a systematic evaluation of the impact of self-perceived oral health on expectations of getting a job on adult population seeking dental care, and to describe its associations with demographic characteristics, job related, and health coverage variables. We designed a descriptive cross-sectional study including men and women aged 18 to 65 years from a population seeking dental services in a walk-in clinic. In a first stage we design and validated an instrument on a sample of 100 subjects. The questionnaire was registered in a Likert scale, with higher scores represented higher impact of the oral status self-perception on employability. We calculated internal consistency, construct validity, and domains validation. The final instrument consisted in an 18-item questionnaire (Cronbach  $\alpha = 0.814$ ), grouped into two domains based on exploratory and confirmatory factor analysis. The total variance explained with values  $>1$  was 66 percent, grouping questions into six components. One domain refers to oral health status and importance of dental aesthetics, while the other refers to specific job-seeking elements. In a second stage we applied the questionnaire on 800 participants from the same population of reference. Women, people who intended to change jobs, those younger than 40 years old, having health insurance, and higher educational level showed statistically significant higher scores than their counterparts ( $p < 0.001$ ). We developed a tool that enables evaluating the impact of self-perceived oral health on expectations of getting a job for adults seeking emergency care in a dental clinic.

**Keywords:** Oral Health; Employment; Quality of Life; Global Health; Health Status Disparities; Diagnostic Self Evaluation.

## Introduction

Poor oral health contributes to several social ills, including underemployment and unemployment.<sup>1</sup> The term employability refers to the skills and abilities that allow an individual to be employed.<sup>2</sup> Pool and Sewell<sup>3</sup> developed an theoretical model of employability that allows a comprehensive explanation including self-efficacy, self-confidence, and self-esteem connecting knowledge, understanding, skills, personal attributes into employability (Figure 1). According to



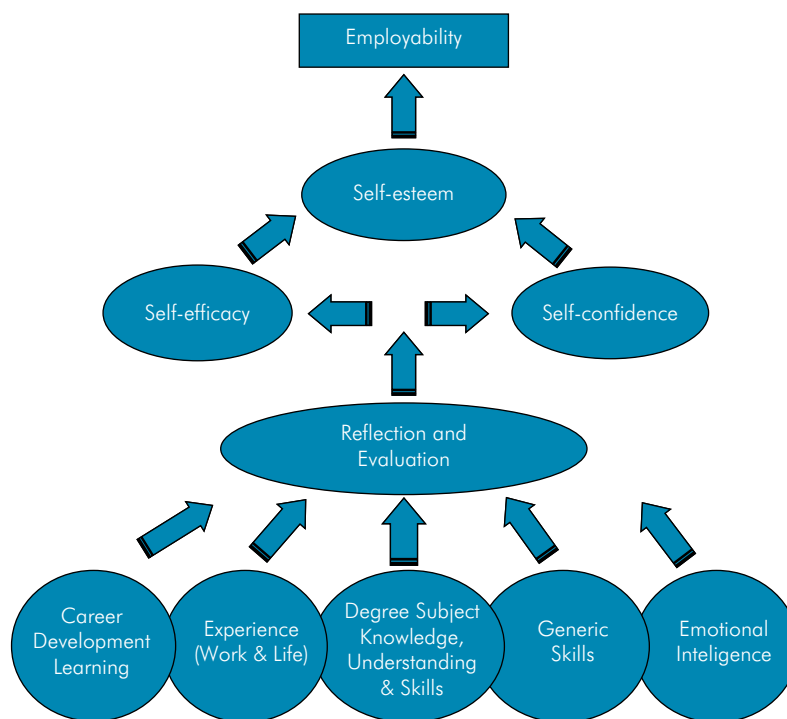
this model, people with global self-esteem have self-respect and a feeling of worthiness which impacts on employability. Physical appearance is positively related to self-esteem. When individuals examine themselves and find lacking of something in their physical appearance, they are more likely to take measures to self-create something that will make them feel satisfied.<sup>4</sup> However, this assumes that the individual has resources and access to those actions.

Studies have shown a direct relationship between physical appearance and social attractiveness.<sup>5-7</sup> The face is the most important part of the body concerning attractiveness and social interaction<sup>8,9</sup> and the mouth and teeth are major features in the evaluation of physical appearance, since social and mental wellbeing can be affected by a displeasing dental appearance.<sup>10</sup> Sometimes, desirable physical characteristics used by employers has been questioned in terms of gender, race/ethnicity, cultural background, and physical appearance bias.<sup>11</sup> However, standards for attractiveness are emerging as determinants of employability<sup>12</sup> and physically attractive people are

perceived as having better job qualifications and predicted job success, and as being more competent and intelligent.

The evidence on the importance of dental aesthetics in employability is a relative new field. There are few reports in the literature on the association between the perception of oral health and expectations of employability. Almedlej et al.<sup>13</sup> reported that dental appearance might influence the judgment of future employers.<sup>14-17</sup> In Latin America, Ortiz et al. found a direct effect of Oral Health-Related Quality of Life on labor market entry. At the same time, other variables, such as household income, malocclusion, and toothache, had an indirect impact on the labor market entry.<sup>18</sup>

Pithon et al.<sup>16</sup> developed a study in which participants were shown facial photographs of people with different degrees of malocclusion which were later digitally modified to show ideal smiles. Using a questionnaire, the participant found these corrected images correlated with being more intelligent and having better chances of getting a job. Rankin and Borah<sup>17</sup> found that the presence of facial



**Figure 1.** Essential components of employability.

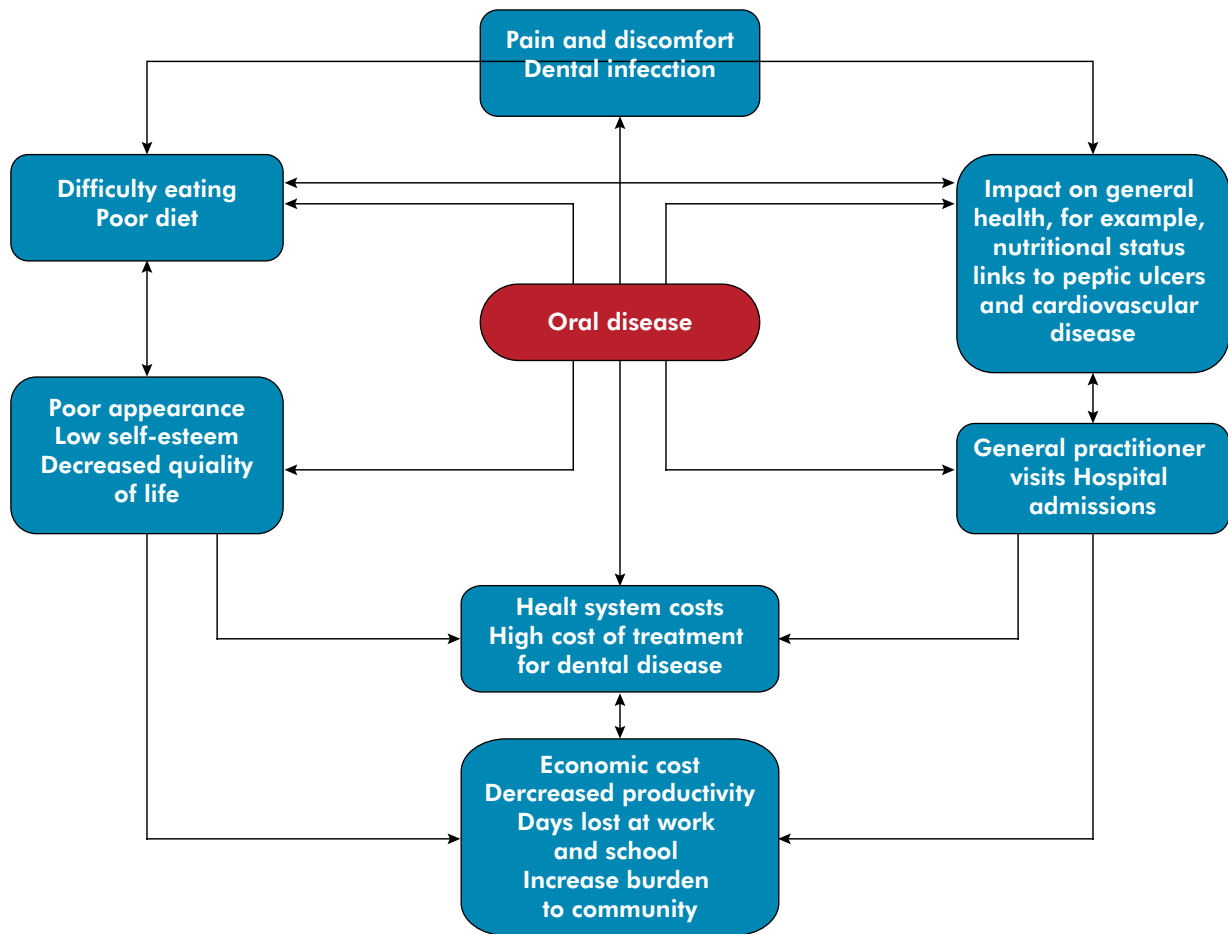
anomalies negatively influences the perception of social functioning, such as employability, honesty, trustworthiness and effectiveness, as compared to persons considered “normal” or “attractive”.

The Department of Human Services (DHS) of the Melbourne Public Health Division<sup>19</sup> proposed a conceptual framework to demonstrate the economic burdens that oral diseases can place on the health system and society, including reduced productivity and loss of work (Figure 2). As described in this model, oral health could have a negative impact on employment participation due to poor appearance and reduced self-esteem, preventing attendance at job interviews and/or regular work. Bedos et al.<sup>20</sup> conducted a qualitative research and found that people on social assistance define oral health in a social manner, placing

emphasis on dental appearance and the devastating impact that compromised dental appearance can have on self-esteem, social interaction, and employability.

None of these studies, however, have used a valid and standardized approach to assess the effects of physical attractiveness as related to dental aesthetic in the job-seeking population. Furthermore, these studies should measure the scope and magnitude of aesthetics factors in potential employees as well as employers.

The objective of our study was to develop and validate a questionnaire for evaluating the impact of self-perceived oral health on expectations of getting a job, among working-age participants and to describe its scores by socio-demographic characteristics, seeking work, and general health variables.



**Figure 2.** Impacts of oral diseases (Source: Department of Human Services, Melbourne, 1990).

## Methodology

This is a descriptive cross-sectional study designed to develop and validate a new tool (questionnaire) named the Oral Health and Employability Expectations Questionnaire: (OHEE-Q).

The study population comprises working-age men and women, aged 18 to 65 years, seeking dental care services without appointment (emergency or first consultation) at the Emergency and Patient Orientation Service of the University Dental Hospital of the School of Dentistry of the University of Buenos Aires (EPOS), located in Buenos Aires city. This clinic has a 7-operator clinic dedicated to treating patients requiring urgent care emergency treatment and patients seeking regular treatment and are further referred to different specialists within the dental hospital.

We conducted the first stage of the study, design and validation of a self administered questionnaire, in a purposive sample of 100 subjects who met the inclusion/exclusion criteria. In the second stage we tested the distribution of the questionnaire scores by socio-demographic, job related and health related variables. For this purpose we used a purposive sample of 800 subjects from the same clinic. In both cases, ethical requirements were fulfilled and included an explanation of the study procedures and signing consent form. The STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines for reporting cross-sectional studies adhered to the design of the study. The protocol was approved by the Ethics Committee of the School of Dentistry of the University of Buenos Aires. Subjects were identified sequentially until reaching the sample targets (four months) Patients with difficulties reading and writing, neurologic and/or psychiatric disorders were excluded from the study. Those who failed to complete the questionnaire, and/or did not understand at least one of the questions, were eliminated from the analysis.

A first draft of the questionnaire was designed by six subject-matter-experts (sociologists, psychologists and dentists) who developed a

set of 36 Likert-scale questions (items) with five possible responses asking the degree of agreement with the statement. The items include a “do not know” potential answer. Higher scores represented a greater agreement. Questions were based on previous research of each one of the experts in their own field of knowledge.

After design, five experts from different fields of experience developed content validity. Content validation identified 25 items. Over a 4-month period and until the sample size ( $n= 100$ ) was reached, patients seen at the service and who complied with the inclusion criteria were asked to voluntarily and anonymously answer the questionnaire. After this process, we performed a statistical analysis to establish internal consistency, construct validity and domains validation. The final questionnaire is included in Table 1.

In order to establish the association of employability expectations to perceived oral status with socio-demographic, job related and health coverage variables we design a second stage of the study. Participants in this second stage ( $n = 800$ ) provided information on demographic characteristics (age and sex), job-related issues (currently seeking employment, intention to change jobs), and health coverage information, as independent variables, though a self-administered form. A flowchart of the study is shown in Figure 3.

### Statistical analysis

We completed univariate and bivariate analysis using chi-square, with Yates corrections for continuity, or maximum likelihood ratio, when applicable.

Internal consistency was determined using Cronbach's coefficient ( $\alpha$ ). Construct validity was established using Exploratory Factor Analysis (FA) using principal components analysis (Varimax rotation). The items in each domain were validated by Confirmatory Factor Analysis (FA) using structural equations.

We compared scores of individuals grouped by socio-demographic variables and employment-related variables using a t-test for independent samples.

All data were analyzed in IBM® SPSS® Amos statistic package.

**Table 1.** Results of the exploratory Factor Analysis (FA) using principal components, varimax rotation and Kaiser normalization of the OHEE-Q instrument applied to a convenient sample of adults aged 18-65.

| Item   | Component |        |        |        |        |        |
|--|-----------|--------|--------|--------|--------|--------|
|  | 1         | 2      | 3      | 4      | 5      | 6      |
|  | D2        | D1     | D1     | D2     | D1     | D1     |
| 1. I have needed dental treatment in order to improve my dental health                                 | 0.029     | -0.043 | 0.125  | -0.010 | 0.823  | -0.059 |
| 2. I had felt toothache that has prevented me from carrying out my activities of daily living          | 0.093     | 0.359  | -0.119 | -0.014 | 0.610  | 0.036  |
| 4. I regularly visit the dentist to avoid having problems that could affect my daily activity          | 0.168     | -0.197 | 0.222  | 0.559  | -0.006 | 0.358  |
| 6. I have made an economic effort to improve the aesthetic appearance of my teeth                      | 0.175     | 0.013  | 0.275  | 0.175  | 0.547  | 0.080  |
| 10. I have felt observed by my mouth when I have a conversation  | -0.041    | 0.122  | 0.826  | 0.077  | 0.065  | 0.141  |
| 11. I have been ashamed of the condition of my mouth when interacting with other people                | -0.066    | 0.355  | 0.679  | 0.095  | 0.215  | -0.145 |
| 12. I believe that the loss of teeth is not a natural process  | 0.220     | 0.207  | 0.148  | 0.160  | 0.235  | 0.531  |
| 13. I can't smile because of my teeth  | 0.161     | 0.725  | 0.153  | 0.018  | 0.203  | 0.093  |
| 14. The appearance of my mouth is an important aspect to improve my work situation                     | 0.844     | 0.122  | -0.121 | 0.072  | 0.093  | 0.148  |
| 15. My oral health is important in order to get a job  | 0.878     | 0.130  | 0.074  | 0.101  | 0.127  | -0.045 |
| 16. Dental treatments that improve my physical appearance favor the possibility of getting a job       | 0.812     | 0.024  | 0.168  | 0.049  | 0.032  | -0.154 |
| 17. My mouth conditions need treatments that improve my appearance                                     | 0.422     | 0.187  | 0.698  | -0.122 | 0.031  | 0.051  |
| 18. I have had problems pronouncing a word due to problems with my teeth, mouth or prosthesis          | -0.013    | 0.763  | 0.129  | -0.020 | 0.124  | 0.103  |
| 19. Pain in the mouth negatively affects my job search   | 0.143     | 0.350  | -0.225 | 0.713  | -0.046 | 0.087  |
| 20. Dental problems make me feel inferior at the time of a job interview                               | -0.022    | 0.160  | 0.131  | 0.838  | 0.160  | -0.174 |
| 22. I have considered improving the appearance of my teeth before starting a job search                | 0.538     | 0.104  | 0.065  | 0.129  | 0.166  | -0.673 |
| 23. Due to my oral aesthetics, I try not to smile or hide my teeth                                     | 0.104     | 0.695  | 0.400  | 0.207  | -0.131 | -0.179 |
| 24. I have considered not attending a job interview due to problems with my teeth, mouth or prosthesis | 0.164     | 0.683  | 0.090  | 0.357  | -0.034 | -0.117 |

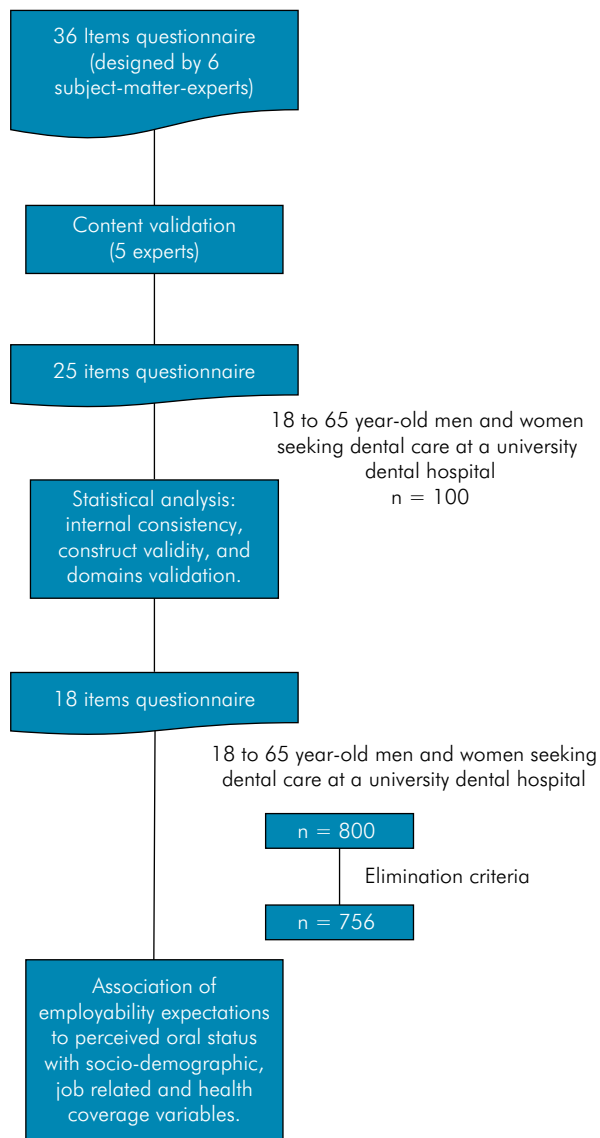
## Results

### First stage: Design and validation of the instrument

From the initial 100 participants, thirteen were eliminated because they did not match all requirements. The final sample had a mean of 37 years (Q3-Q1 = 24 years), 68 percent were women, 89 percent Argentinian citizens, 69 percent had health insurance, 71 percent had a current job, and

69 percent were trying to change jobs by the time the questionnaires was completed.

Based on Cronbach's coefficient values and using a cut-off higher than 0.8, seven of the 25 items were eliminated. The alpha for the original 25 questions was 0.767, and for the remaining 18 questions was 0.814. The Bartlett's sphericity test was statistically significant (chi-square = 517.65;  $p < 0.001$ ), therefore, we applied a factor analysis (Table 1). The Kaiser-Meyer-Olkin measure of



**Figure 3.** Flowchart of study phases.

sampling adequacy for the 18 selected questions was 0.662. The total variance explained with values > 1 was 66 percent, grouping questions into six components.

Table 1 shows the distribution of all items in its six components and two domains which we labeled as:

D1 (“oral health domain”): “Perception of hygiene, oral health, and aesthetic condition,” 11 items, components 2, 3, 5 and 6; and

D2 (“job search domain”): “View of oral health status and aesthetic with relation to job search,” 7 items, components 1 and 4.

The distribution of total and partial scores approached normality. There was a low, though statistically significant correlation between the scores of the two domains ( $\rho = 0.413$ ;  $p < 0.001$ ). The internal consistency was 0.783 for D1, and 0.706 for D2.

In the exploratory Factor Analysis, all coefficients were higher than 0.5 for each item within its component (Table 1). The structural equations analysis provided the global adjustment indices for the model.

The confirmatory factor analysis validated the assignment of items to both domains. When the hypothesis of the two domains defined were tested by grouping the components, it was observed that within the domain the coefficients they were high. On the other hand, between dimensions, the coefficient was low but statistically significant.

### Second stage: Association of employability expectations to perceived oral status with socio-demographic, job related, and health coverage variables

Forty-four out of 800 selected participants did not match the selection criteria and were not included in the study. The mean age of the 756 participants remaining in the analysis was  $34 \pm 13$  years old, 71% of the respondents were women and 82% were Argentinean. Age and sex proportion were similar to those used in the instrument design and validation process ( $p = 0.117$ ). Forty-eight percent of respondents had completed tertiary schooling (16–18 years) and forty-four percent reported having medical insurance (Table 2).

Fifty-seven percent of participants reported having a job, and of these, 44 percent intended to change jobs. Of the unemployed, 76 percent were seeking jobs.

Women scored higher than men for both domains (Student’s test for independent samples  $p < 0.001$ ) (Table 3). Scores were higher among younger participants and those who intended to change jobs ( $p < 0.001$ ).

Scores decreased with education for each and both domains. D1 but not D2 scores increased with having medical insurance, a proxy of formal employment since in Argentina health insurance is a mandatory

**Table 2.** Frequency distribution, percentages and 95% confidence interval for sociodemographic variables and reason for visit. Adults aged 18–65 years.

| Variables (n = 756)           | Frequency |      | 95%CI       |             |
|-------------------------------|-----------|------|-------------|-------------|
|                               |           |      | Lower limit | Upper limit |
| <b>Sex</b>                    |           |      |             |             |
| Female                        | 534       | 70.6 | 67.3        | 73.8        |
| Male                          | 222       | 29.4 | 26.2        | 32.7        |
| <b>Employed</b>               |           |      |             |             |
| Yes                           | 428       | 56.6 | 53.1        | 60.1        |
| No                            | 328       | 43.4 | 39.9        | 46.9        |
| <b>Seeking employment</b>     |           |      |             |             |
| Yes                           | 249       | 75.9 | 71.1        | 80.3        |
| No                            | 79        | 24.1 | 19.7        | 28.9        |
| <b>Intends to change jobs</b> |           |      |             |             |
| Yes                           | 189       | 44.2 | 39.5        | 48.9        |
| No                            | 239       | 55.8 | 51.1        | 60.5        |
| <b>Medical insurance</b>      |           |      |             |             |
| Yes                           | 331       | 43.8 | 40.3        | 47.3        |
| No                            | 425       | 56.2 | 52.7        | 59.7        |
| <b>Education</b>              |           |      |             |             |
| Primary                       | 65        | 8.6  | 6.8         | 10.8        |
| Secondary                     | 325       | 43.0 | 39.5        | 46.5        |
| Tertiary/University           | 366       | 48.4 | 44.9        | 52.0        |
| <b>Argentine nationality</b>  |           |      |             |             |
| Yes                           | 619       | 81.9 | 79.0        | 84.5        |
| No                            | 137       | 18.1 | 15.5        | 21.0        |

social benefit for workers. Employed people with intention to change their jobs have a higher domain and total scores.

## Discussion

Physically attractive individuals are treated more positively as those considered less attractive.<sup>21</sup> Such differential treatment may influence outcomes of interpersonal interactions in initial impressions, dating decisions, helping behavior, teacher evaluations of students,<sup>22</sup> juror decision making,<sup>23</sup> and voters' preferences for political candidates.<sup>24</sup> Thus, individual's appearance may impact social interactions in occupational settings. Physically attractive people are perceived as having better job qualifications and predicted job success, and as being more competent

and intelligent.<sup>12</sup> These biases should not be an issue in equalitarian societies where everybody has the same opportunities, but even in equalitarian societies, aesthetically fitted individuals may have an advantage in job searching. Two theories have tried to explain the role of physical attractiveness in the labor market. The first, diffuse status characteristics theory<sup>25</sup> details how markers of valued statuses can generalize into a broad range of positive expectations for individuals. The second, stigma perspective contends that devalued statuses can generate negative social experiences that are then internalized.<sup>26</sup> Based on the stigma perspective, we expect that physically unattractive people may be viewed negatively by others and even by themselves. In the same line of thought, the presence of facial and dental anomalies, may give rise to negative perceptions.<sup>27</sup> Furthermore,

■ *Is self-perception of oral health associated with expectations of employability?*

**Table 3.** OHEEP scores (TS) and by component (SD1 and SD2) according to sex, age, educational level, prepaid/union-managed medical insurance, current employment, and intention to change jobs. Adults aged 18–65 years.

| Variable                                       | Mean | 95% CI      |             | Percentile | Median | Percentile | p-value   |
|--|------|-------------|-------------|------------|--------|------------|-----------|
|  |      | Lower limit | Upper limit | 25%        |        | 75%        |           |
| <b>Sex</b>                                     |      |             |             |            |        |            |           |
| <b>TS</b>                                      |      |             |             |            |        |            |           |
| Female   | 53.3 | 52.0        | 54.5        | 42.0       | 51.0   | 64.0       | p < 0.001 |
| Male   | 49.1 | 47.1        | 51.1        | 38.0       | 47.0   | 58.0       |           |
| <b>SD1</b>                                     |      |             |             |            |        |            |           |
| Female   | 29.1 | 28.3        | 29.9        | 22.0       | 28.0   | 37.0       | p = 0.035 |
| Male   | 27.5 | 26.3        | 28.8        | 20.0       | 25.5   | 35.0       |           |
| <b>SD2</b>                                     |      |             |             |            |        |            |           |
| Female   | 24.2 | 23.6        | 24.8        | 19.0       | 24.0   | 29.0       | p < 0.001 |
| Male   | 21.6 | 20.6        | 22.5        | 17.0       | 21.0   | 26.0       |           |
| <b>Age</b>                                     |      |             |             |            |        |            |           |
| <b>TS</b>                                      |      |             |             |            |        |            |           |
| ≤ 40   | 49.7 | 48.5        | 50.9        | 39.0       | 48.0   | 59.0       | p < 0.001 |
| > 40   | 57.7 | 55.7        | 59.7        | 47.0       | 57.0   | 70.0       |           |
| <b>SD1</b>                                     |      |             |             |            |        |            |           |
| ≤ 40   | 27.4 | 26.7        | 28.2        | 20.0       | 26.0   | 34.0       | p = 0.035 |
| > 40   | 31.5 | 30.3        | 32.7        | 24.0       | 31.5   | 38.0       |           |
| <b>SD2</b>                                     |      |             |             |            |        |            |           |
| ≤ 40   | 22.2 | 21.7        | 22.8        | 17.0       | 22.0   | 28.0       | p < 0.001 |
| > 40   | 26.2 | 25.2        | 27.2        | 21.0       | 26.0   | 32.0       |           |
| <b>Prepaid/union-managed medical insurance</b> |      |             |             |            |        |            |           |
| <b>TS</b>                                      |      |             |             |            |        |            |           |
| Yes  | 50.8 | 49.2        | 52.3        | 41.0       | 50.0   | 60.0       | p = 0.037 |
| No   | 53.0 | 51.6        | 54.5        | 41.0       | 51.0   | 64.0       |           |
| <b>SD1</b>                                     |      |             |             |            |        |            |           |
| Yes  | 27.6 | 26.6        | 28.6        | 20.0       | 26.0   | 36.0       | p = 0.008 |
| No   | 29.4 | 28.6        | 30.3        | 22.0       | 29.0   | 36.0       |           |
| <b>SD2</b>                                     |      |             |             |            |        |            |           |
| Yes  | 23.1 | 22.4        | 23.9        | 18.0       | 23.0   | 28.0       | p = 0.361 |
| No   | 23.6 | 22.9        | 24.4        | 18.0       | 23.0   | 29.0       |           |
| <b>Educational level</b>                       |      |             |             |            |        |            |           |
| <b>TS</b>                                      |      |             |             |            |        |            |           |
| Primary  | 62.4 | 58.4        | 66.3        | 50.0       | 67.0   | 74.0       | p < 0.001 |
| Secondary                                      | 53.6 | 51.9        | 55.4        | 42.0       | 52.0   | 66.0       |           |
| Ter/Univ                                       | 48.8 | 47.5        | 50.1        | 40.0       | 48.0   | 56.0       |           |
| <b>SD1</b>                                     |      |             |             |            |        |            |           |
| Primary  | 34.9 | 32.5        | 37.2        | 29.0       | 38.0   | 42.0       | p < 0.001 |
| Secondary                                      | 30.0 | 29.0        | 31.1        | 23.0       | 30.0   | 37.0       |           |
| Ter/Univ                                       | 26.3 | 25.4        | 27.1        | 20.0       | 25.0   | 31.0       |           |

Continue



| Continuation            |      |      |      |      |      |      |           |
|-------------------------|------|------|------|------|------|------|-----------|
| SD2                     |      |      |      |      |      |      |           |
| Primary                 | 27.5 | 25.6 | 29.4 | 21.0 | 29.0 | 32.0 | p < 0.001 |
| Secondary               | 23.6 | 22.8 | 24.4 | 18.0 | 23.0 | 29.0 |           |
| Ter/Univ                | 22.5 | 21.8 | 23.2 | 18.0 | 23.0 | 28.0 |           |
| Intention to change job |      |      |      |      |      |      |           |
| TS                      |      |      |      |      |      |      |           |
| Yes                     | 55.8 | 53.6 | 57.9 | 43.0 | 54.0 | 68.0 | p < 0.001 |
| No                      | 49.1 | 47.1 | 51.0 | 38.0 | 46.0 | 58.0 |           |
| SD1                     |      |      |      |      |      |      |           |
| Yes                     | 30.8 | 29.6 | 32.1 | 24.0 | 31.0 | 38.0 | p < 0.001 |
| No                      | 26.8 | 25.6 | 28.1 | 19.0 | 25.0 | 34.0 |           |
| SD2                     |      |      |      |      |      |      |           |
| Yes                     | 24.9 | 23.9 | 26.0 | 20.0 | 24.0 | 29.0 | p < 0.001 |
| No                      | 22.2 | 21.3 | 23.1 | 17.0 | 22.0 | 26.0 |           |

people who are satisfied with their own physical appearance tend to be more outgoing and successful in social contact.<sup>28</sup>

Based on these theories, highly competitive market environments encourage applicants to develop not just the skills and competencies required in the job description, but differentiating elements that will enable to position themselves at a higher level than competitors. Some of these elements may include personal appearance and social interaction skills. From this perspective, it follows that individuals, collective groups, and employers may use different parameters during job seeking and recruitment.

In a systematic review, Singhal et al.<sup>29</sup> analyzed the impact of dental treatment on employment outcomes and reported difficulties to finding relevant literature pertaining to the provision of dental care and employment outcomes among low income and unemployed populations. They suggested that while it is easy to assume that dental care can improve such outcomes, it is much harder to prove it.

In the present study, we developed a tool to explore the impact of self-perceived oral health and aesthetics in accessing the work market. As such, the questionnaire it is not an outcome by itself, but a measurement tool to be used in more in-depth studies. Furthermore, the OHEE-Q scores

are meant for comparisons, not as absolute values or desirable scores. The OHEE-Q opens the field for interdisciplinary research including identifying ethical issues in job recruitment proper to egalitarian societies. In a future study, the questionnaire should be applied to patients with different levels of oral health to establish the association between the results of the questionnaire and the perceived and objective needs for dental treatment.

As described in the introduction, there are psychometric instruments available for assessment of the impact of dental aesthetics on subjective well-being,<sup>30</sup> but none addresses employability.

We follow standard methods to design, test, and validate OHEE-Q. The instrument included references to dental aesthetics in several items, reflecting other oral health related quality of life instruments. We identified two domains: "Perception, of oral health, hygiene, and aesthetic condition," and "View of oral health status and aesthetic with relation to job search". Confirmatory factor analysis found a good fit of this model. The low correlation between domains justifies the inclusion of shared items relevant to each dimension.

The differences observed when stratifying by sex suggests that self-perceived oral health may play a higher role in women than in men. Furthermore, we observed differences when stratifying participants

by age, educational level, health insurance, and intention to change jobs. These differences should be further explored because the study was carried out on an extreme volatile economic situation in Argentina that may impact on job stability and fear of unemployment. For our participants, improvement of oral health could denote actions leading to improved psychosocial well-being but, also, a potential strategy to overpass physically appearance disadvantages in a highly competitive job market. As an example of that, some studies have reported improved body image and appearance-related self-confidence after aesthetic procedures such as orthodontic treatments,<sup>31</sup> orthognathic surgery,<sup>32,33</sup> teeth whitening<sup>34,35</sup> and restorative practices.<sup>36</sup> It would also very important on how these effects are modified by the extreme economic and labor situations caused by the COVID-19 pandemic.

Our study has some limitations. Our sample was large, but represent a convenience sample of adults seeking dental care, which may be quite difference from the population of working adults in Buenos Aires. Also, the sample includes individuals from a wide age range. Further studies should target those at critical moments of labor-force entry. Finally, the sample overrepresented women, who due to economic situations, may be have been unemployed at the time of the study and seek dental care. Women may have different patterns of importance on oral health

and aesthetics than men in seeking employment. Despite these differences, we think that this new tool, have the potential to open new lines of social research and the role that dental interventions may have in employability.

We envision OHEE-Q as a tool applied to different settings and populations to identify the degree and bias of dental esthetics on employability across demographics, jobs, cultural, and economic settings.

## Conclusions

We designed a tool with high reliability and construct validity, which enables the evaluation of the impact of self-perceived oral health on expectations of getting a job.

Self-perceived oral health status has greater impact on employability expectations in women, people intending to change jobs, people over 40 years of age and people with lower educational level.

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■ *Is self-perception of oral health associated with expectations of employability?*

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