

# The Influence of Bullying and Malocclusion on the Quality of Life of Adolescents

Ana Paula Barbisan Rodrigues<sup>1</sup>, Augusto Alberto Foggiato<sup>2,3</sup>, Douglas Fernandes da Silva<sup>2,4</sup>, César Henrique Fukuji Fuziy<sup>5</sup>, Acácio Fuziy<sup>1,2</sup>

<sup>1</sup>University City of São Paulo – UNICID, BRAZIL

<sup>2</sup>Research Institute in Dentistry, Medicine and Phototherapy Foggiato, BRAZIL

<sup>3</sup>São Leopoldo Mandic Research Center and Dental Institute, BRAZIL

<sup>4</sup>University Center of Ourinhos – UNIFIO, BRAZIL

<sup>5</sup>Paulista State University Júlio de Mesquita Filho – UNESP, BRAZIL

[acaciovuziy2@gmail.com](mailto:acaciovuziy2@gmail.com)

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**Keyword— Bullying, Adolescent;  
Orthodontics, Malocclusion, Quality of  
Life.**

**Abstract— Objective:** To evaluate the association of bullying and malocclusion with the quality of life of adolescents and their families. **Methods:** 93 young people with an average age of 13.7 years participated in this research which, at the beginning of orthodontic treatment, presented some type of malocclusion that compromised facial aesthetics. The classification of malocclusion was performed by analyzing the initial orthodontic documentation. The impact of malocclusion on quality of life was measured by self-administered questionnaires CPQ (Child Perceptions Questionnaire) and PPQ (Parental Perceptions Questionnaire) which contained questions grouped into 4 domains: oral symptoms, functional limitations, emotional well-being and social well-being. The Kidscape questionnaire was applied to assess the occurrence of bullying. The statistical analysis of the data obtained was by means of summary measures, using the Spearman coefficient and the Kruskal-Wallis tests or Fisher's exact test. The level of significance adopted was 5%. **Results:** The occurrence of bullying related to malocclusion was observed in 44 young people interviewed, and in 86.36% of these adolescents, the phenomenon happened before orthodontic treatment and had negative consequences on quality of life, especially in the related item of emotional and social well-being. The malocclusions that most related to Bullying were in Class II descending order, followed by Class III and finally the deep overbite. **Conclusions:** There was an association between the occurrence of bullying, the type of malocclusion and an improvement considered in the quality of life of adolescents after beginning orthodontic treatment.

## I. INTRODUCTION

Adolescence is considered to be a special phase of human development characterized by physical, psychological and emotional changes, which can have an impact not only on the young person in question, but also on his family and social life <sup>1,2</sup>.

During the transition from adolescence to adulthood, some factors may represent obstacles to the

construction of self-esteem and psychosocial development of young people, which will serve as a foundation for a healthy adult life <sup>1,3</sup>.

In this scenario, bullying can be considered a threatening obstacle <sup>1,4</sup>. Intentional character, not caused by the victim, bullying is a type of violence characterized by an aggressive, repetitive behavioral disorder, which aims to cause some physical or moral damage to someone

who is weaker or unable to defend him/herself. The victim of this type of violence suffers threat, exclusion, discrimination and, in more extreme cases, physical aggression<sup>4,5</sup>.

Considering that the discrepant physical stereotype in relation to the aesthetic standards of beauty advocated by society is one of the motivations for the occurrence of *bullying*<sup>6,7</sup>, added to the fact that malocclusion has a great impact on facial aesthetics<sup>8-10</sup>, therefore, it is important to verify the impact of malocclusion on the occurrence of *bullying*. In addition, considering that orthodontic treatment aims to correct malocclusion and consequently facial aesthetics, this study aims to assess the association of *bullying* with malocclusion and the impact of orthodontic treatment on the quality of life of adolescents.

## II. MATERIAL AND METHODS

This retrospective longitudinal study was approved by the Ethics in Research Committee of the University City of São Paulo (UNICID) under protocol number 2.135.906. 200 Brazilian adolescents participated in this research, with ages varying from 10 to 18 years old, accompanied by their respective guardians, with malocclusion with impaired facial aesthetics. Of this total, 93 young people were selected, with an average age of 13.7 years, who were undergoing treatment at the Orthodontics Clinic of UNICID and who met the following inclusion criteria: I) patients who contained orthodontic documentation complete; II) who had Class II, Class III malocclusions, open bite, diastema or severe overbite; III) individuals who showed visible improvement in the context of malocclusion during treatment or after completion of treatment. This study excluded patients who did not remember the initial situation related to their malocclusion, prior to orthodontic treatment and those whose parents or guardians did not authorize their participation in this study.

The description of the malocclusion was obtained by analyzing the initial orthodontic documentation of these patients. The severity of the anomaly was characterized by the number of missing teeth in each arch, the degree of crowding, the presence or absence of diastemas and the detection of pronounced horizontal or vertical overlapping.

The questionnaires were, before their application in this research, audited by two professionals in the field of Psychology, with experience in behavioral assessment of children and adolescents who assessed whether the language used was in accordance with the chosen age group, thus facilitating their understanding.

To assess the impact of oral health on adolescents' quality of life, the *Child Oral Health Quality of Life Instrument* (COHQOL) questionnaire was used in this research<sup>5,7,10-13</sup>. The questionnaire was subdivided into: *Parental Perceptions Questionnaire* (PPQ), *Family Impact Scale* (FIS) and *Child Perceptions Questionnaire* (CPQ)<sup>11,12,14</sup>.

The CPQ<sup>(11-14)</sup> questionnaire consisted of 37 items, grouped into 4 domains: oral symptoms (n = 6), functional limitations (n = 9), emotional well-being (n = 9) and social well-being (n = 13), however, to facilitate research, the number of questions was reduced to 16, divided into the four domains. The frequency of events that occurred on teeth, lips, jaws and mouth in the last 3 months was evaluated. Each of the CPQ domains can vary from 0 to 16, and the higher the score, the worse the quality of life. The total domain can range from 0 to 64.

Regarding the oral health of adolescents and their degree of commitment to their well-being, this questionnaire presents the following statement: "Would you say that the health of your teeth, lips, jaws and mouth is ..." and "How far does the condition of your teeth, lips, jaws and mouth affect your life in general?" (Supplementary file - questionnaire).

The *Parental Perceptions Questionnaire* - PPQ questionnaire applied to parents / guardians evaluated the effects of orthodontic treatments on the well-being and quality of life of adolescents. The domains that characterize oral symptoms and functional limitations can range from 0 to 28, emotional well-being from 0 to 32, social well-being from 0 to 44 and total from 0 to 140. The higher the score, the higher the impact on family members' quality of life.

The *Family Impact Scale* - FIS questionnaire evaluated the effects of oral conditions on the well-being and daily lives of adolescents and their families, the domains that represent family activities. In this case, ranging from 0 to 20 points, the domains of emotions and conflicts from 0 to 16 and the question regarding financial difficulty will be evaluated.

The *Kidscape* questionnaire<sup>5,15</sup> was used to assess the occurrence of bullying among adolescents. In this case, the aspects related to the frequency with which the adolescent suffered bullying, its consequences, the type of intimidation suffered, the sex of the perpetrator and whether the victim of the assault was also a perpetrator of bullying were considered.

All research participants were verbally instructed on how to answer the questionnaire and were instructed to sign the Informed Consent and Informed Consent Form (ICF), as well as their rights and the possibility to interrupt

their participation in the study at any time, without any type of consent. Penalty, since participation was voluntary. It was also informed about the confidentiality of the information obtained and informed that the only personal data to be collected would be age and gender. The questionnaires were applied in the presence of the researcher, in a quiet and reserved environment, without imposing a time limit, with pauses allowed to resolve any existing doubts when filling out the answers.

After exploratory data analysis using summary measures, the results were processed by the statistical program The SAS System for Windows (Statistical Analysis System), version 9.4. SAS Institute Inc, Cary, NC, USA. The variables were tested sequentially, considering the significance level of 5%. The correlation between the responses of adolescents and guardians was assessed using Spearman's Coefficient. The comparison between types of malocclusion was performed using the Kruskal-Wallis or Fisher's exact tests <sup>16</sup>.

### III. RESULTS

93 teenagers participated in this study (58.06% female and 41.94 male), accompanied by their respective guardians (56.52% mother, 27.17% father, 9.78% brother or sister and 6.52% grandfather or grandmother). The age varied between 11 and 14 years old.

Comparing the results obtained through the CPQ<sup>(11-14)</sup> and PPQ questionnaires, there was a difference between the opinions of adolescents who consider their oral health relatively good (80%), and that of their guardians who classified it as regular (41%) (Figure 1a).

In relation to quality of life (Figure 1b), the responses of adolescents and guardians were equivalent in 60% of the sample, with agreement by both parties when they state that the quality of life of these young people is moderately affected by oral health. However, there was a report from a small portion of these adolescents who reported that their quality of life is not affected by their oral health, and none of those responsible indicated this alternative.

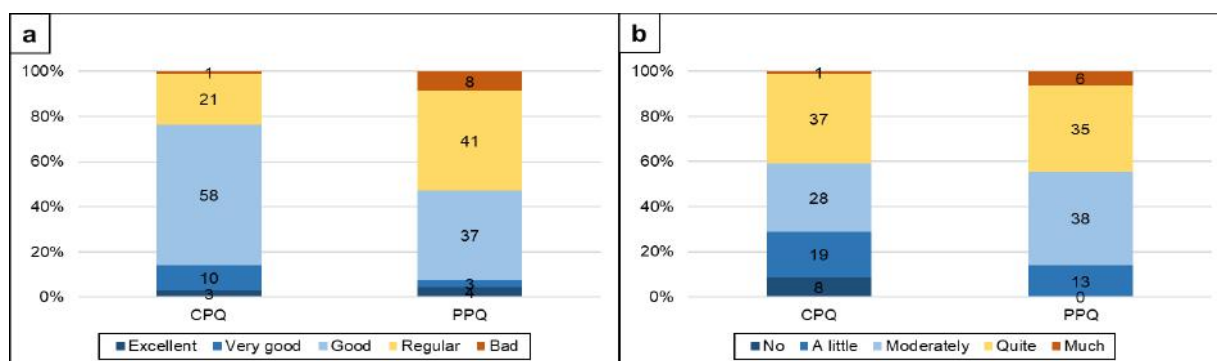


Fig.1: a) Distribution of responses on oral health; b) Distribution of responses on quality of life.

Analyzing the responses of the CPQ<sup>(11,14)</sup>, it can be concluded that most of the interviewed adolescents reported discomfort related to oral symptoms and also some type of functional limitation, due to the presence of malocclusion (Figures 2). As noted, the most highlighted problems were pain and difficulties in eating and speaking.

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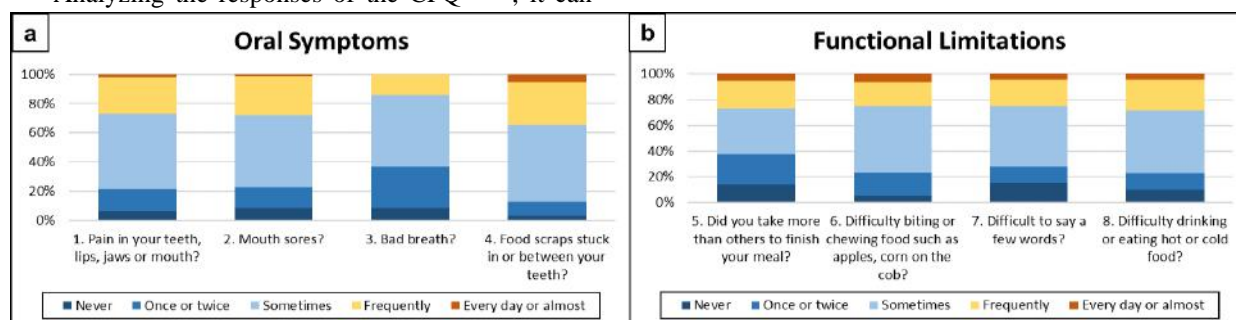


Fig.2: a) Distribution of responses that form the oral symptom domain; b) Distribution of responses that form the functional limitations domain.

It is noted that there is a moderate positive relationship between the responses of patients and guardians for domains related to oral symptoms, functional limitations, emotional and total well-being. For social well-being, there was no significant correlation between the responses of parents and adolescents ( $p>0.05$ ). The number of observations in this analysis varies between domains because only the pairs (adolescents, guardians) who answered all the questions that form the respective domain are considered. An analogy was observed between the responses of adolescents and guardians.

Taking into account the quality of life of family members of adolescents with oral pathologies, it can be seen that these problems interfered with the family's daily life. According to the answers obtained in the FIS questionnaire, the great majority of the guardians reported that they had to leave their work for some reason related to oral health and also problems related to the emotional need

of these young people, who showed jealousy and discussions in the family environment. They also reported concerns related to the reduction of opportunities that these adolescents could have in life due to these malocclusions. There were reports of financial difficulties from these families due to the presence of malocclusion in the patients interviewed (Figure 3).

The results obtained from the Kidscape questionnaire indicate that 47.31% of the participants have already suffered some type of bullying, with 86.36% of the adolescents reporting harassment before orthodontic treatment and 79.55% of the participants consider the consequences to be bad, half of which (50%) the frequency of bullying happened several times. Regarding the type of aggressor, 50% left girls and 88.64% suffered so-called verbal bullying. Among the adolescents studied, 19.51% stated that they had already practiced some type of bullying (Table 1).

Table 1 – Kidscape questionnaire (bullying)

Question	Category	N	%
Have you ever suffered any kind of intimidation, aggression or harassment?	Yes	44	47,31
	No	49	52,69
If so, was it before or after you started your orthodontic treatment?	Before	38	86,36
	After	6	13,64
What were the consequences of the intimidation, aggression or harassment suffered by you?	It had no consequences	5	11,36
	Some bad consequences	35	79,55
	Terrible consequences	4	9,09
	Made you change school	0	0,00
How many times have you suffered bullying, aggression or harassment?	Once	9	20,45
	Almost every day	13	29,55
	Several times	22	50,00
	Many times a day	0	0,00
Who bullied, assaulted or harassed you?	Boy	14	31,82
	Girl	22	50,00
	Boy and girl	8	18,18
What kind of intimidation, aggression or harassment did you suffer?	Physical	4	9,09
	Verbal	39	88,64
	Sexual	0	0,00
	Emotional	0	0,00
	Racist	1	2,27
Have you ever bullied, assaulted or harassed someone?	Yes	16	19,51
	No	66	80,49

Making a comparison between the adolescents who have already suffered bullying and the types of malocclusion involved in this study, we notice a statistical difference in the proportions ( $p < 0.0001$ ). In the question "Have you ever suffered any kind of intimidation, aggression or harassment?", It was found that 71.74% for Class II and 71.43% for Diastemas did not suffer any type of harassment. However, 56.25% for Class III, 100% for patients with vertical overlap such as anterior open bite (AOB) and 63.64% for Overbite suffered some type of

intimidation, aggression or harassment.

Regarding the practice of bullying, significant differences were found between the groups of malocclusion ( $p = 0.0003$ ). The group that most practiced bullying was the overbite one (63.64%), followed by diastema groups (33.33%), Class III (26.67) and then Class II (7.89%). Of the interviewees, none stated that they intimidated, assaulted or harassed someone due to the previous open bite (AOB).

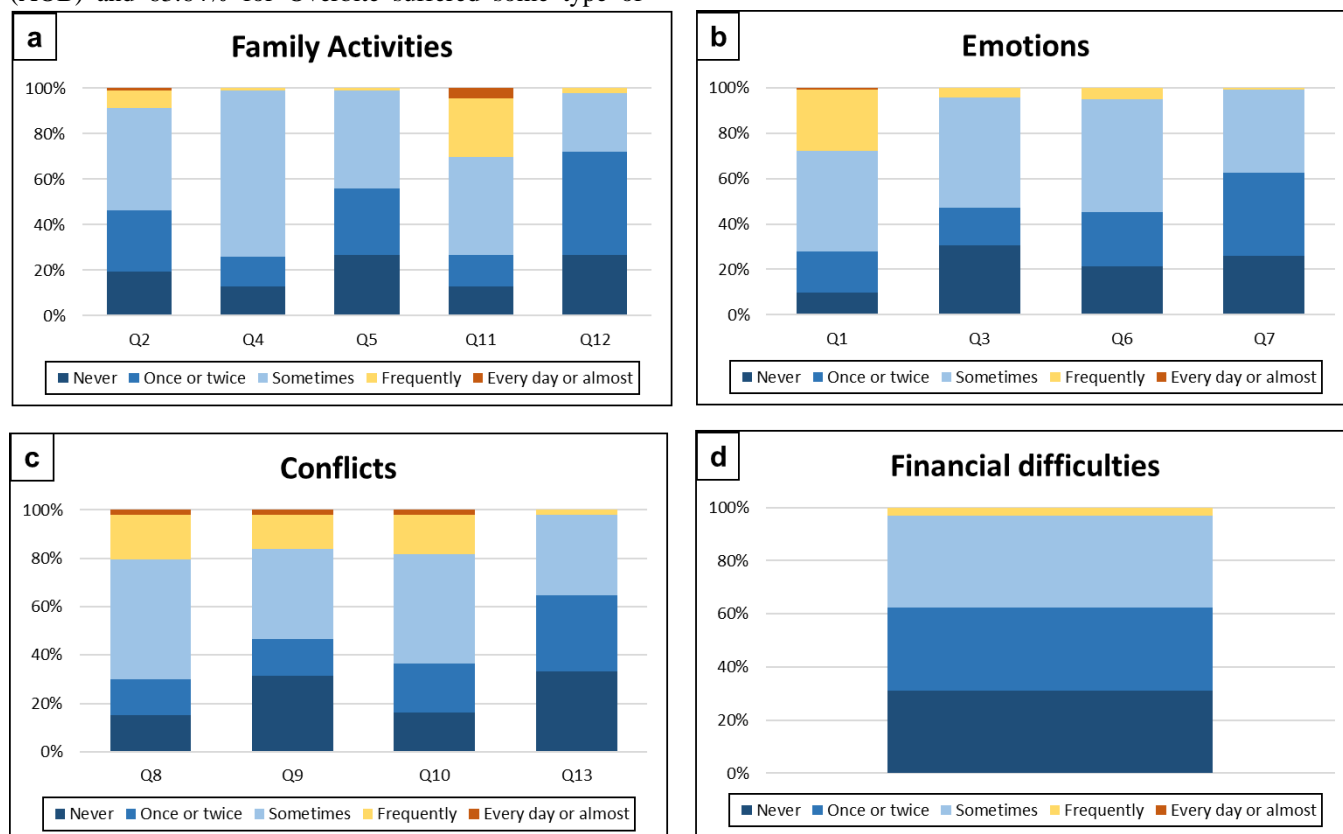


Fig.3: a) Distribution of responses that form the family activities: Q2) Has your sleep been interrupted?; Q4) Did you have to leave work for any reason related to your child's oral health (eg pain, consultation with the dentist, surgery)?; Q5) Had less time for you or your family; Q11) Did it require more attention from you or other family members?; Q1) Did it interfere with family activities at home or elsewhere?; b) Distribution of responses that form the domain of emotions: Q1) Were you upset?; Q3) Did you feel guilty?; Q6) Were you concerned about the possibility of your child having fewer opportunities in life (for example, to date, marry, have children, get a job that she likes)?; Q7) Did you feel uncomfortable in public places (eg stores, restaurants, parties) with your child?; c) Distribution of responses that make up the conflict domain: Q8) Were you jealous of yourself or other family members?; Q9) Did you blame yourself or another family member?; Q10) Did you argue with yourself or other family members?; Q13) Did it cause disagreement or conflict in your family?; d) Distribution of answers to the question about financial difficulties.

#### IV. DISCUSSION

The negative impact of malocclusion on adolescents' quality of life is related to the harmful consequences that interfere with their psychological, physical and social well-being<sup>17</sup>. Consequently, they can cause aesthetic problems that, in turn, can be related to episodes of bullying, directly affecting self-esteem and the quality of life of young

people. Taking this fact into account, it can be said that malocclusion affects the individual both physically and psychologically and socially<sup>18</sup>.

The methodology used in this study was based on the work carried out by Canadian researchers<sup>19</sup>, that developed the *Child Perceptions Questionnaire*, which consists of a group of questionnaires with specific versions



for each age group *Child Perceptions Questionnaire* – CPQ<sub>(8–10)</sub> for children from 8 to 10 years old<sup>20</sup> and the *Child Perceptions Questionnaire* – CPQ<sub>(11–14)</sub> for the age of 11 to 14 years old<sup>21</sup>. According to the aforementioned authors, these instruments are adapted to concepts related to child health and can be applied at different stages of development and also in different oral conditions.

The cultural difference between countries can influence the validity and reliability of the data obtained by applying the questionnaires<sup>22</sup>. Given this fact, we chose to use the *Child Perceptions Questionnaire* – CPQ<sub>(11–14)</sub> model translated<sup>23</sup> and culturally adapted into Portuguese in this research<sup>24</sup>.

It is justified to use this instrument to assess the quality of life of the adolescents involved in this research, since CPQ<sub>(11–14)</sub> assesses the consequences generated by children's oral problems, which occurred in the last three months prior to its application. This questionnaire is divided into four domains: oral symptoms, functional limitations, emotional well-being and social well-being, in addition to two questions that address the perception of oral health and general well-being.

The sample of this research was composed of 93 adolescents, with ages varying from 11 to 14 years old, accompanied by their parents and those with Class II, Class III malocclusion, anterior open bite, overbite and diastema. Fernandes et al.<sup>25</sup> evaluated school children aged 11 to 14 years old and found a significant correlation between the impact on quality of life and the need for orthodontic treatment, showing an expressive relationship with functional limitation ( $p = 0.02$ ), emotional well-being ( $p = 0.05$ ) and the social ( $p = 0.03$ ). The authors concluded that the need for orthodontic treatment and the negative impact on the quality of life of these individuals indicate the possibility of interceptive orthodontic treatments in childhood, thus reducing the problems reported by young people and reducing the impact of these malocclusions on quality of life.

Most of the time, the criticisms arising from some aspect of the health or appearance of these adolescents negatively influence their self-esteem, becoming a predisposing factor to suffer and practice bullying<sup>5,17</sup>.

The results showed that 47.31% of the adolescents suffered from *bullying*, a rate considered high. Most adolescents with malocclusion suffered from this harassment before orthodontic treatment and have also practiced this aggression as a form of self-protection, as found in the literature<sup>17,18,26,27</sup>. In this context, there is a combination of low self-esteem, provocative aggression and probable psychological change. Adolescents who

suffer from this type of problem deserve special attention, as the act of humiliation comes from the need to cover up some type of limitation of the aggressor/victim. Generally, these adolescents are unpopular with the group, are rejected by their colleagues and the vast majority have behavioral problems, psychosomatic and psychological symptoms and referral to psychiatric treatment is highly recommended<sup>4,5</sup>.

Of the 44 young people who declared themselves victims of bullying, most of them claimed to have suffered the aggression several times, characterizing the phenomenon by its repetition, as found in the literature<sup>4,5,18</sup>. As a consequence of these acts, 79.55% of the harassed ones classified as bad and reported that the most common intimidation was verbal, which may include practices that consist in insulting and attributing vexing or humiliating nicknames to the victims, damaging their self-esteem, and may trigger behavioral and emotional disorders, as well as antisocial behaviors, such as: aggressiveness and violence, suicidal thoughts, smoking, and low school performance<sup>4,5</sup>.

For the assessment of quality of life, the scores were considered equal to 0 (has no impact) and  $\geq 1$  (has an impact). It was observed that most students reported an impact on quality of life, and functional limitations were the ones that had the most negative impact, followed by the domain of oral conditions, influencing the emotional well-being of these adolescents, since the majority were upset, irritated due to their oral health, also interfering in their social interaction. This result was also found in the study by Seehra et al.<sup>28</sup> that proved that the presence of malocclusion has a great psychosocial impact. Another study by Marshman, Gibson and Benson<sup>29</sup>, in the United Kingdom, which also demonstrated the impact of malocclusion on quality of life, mainly in the domains of emotional and social well-being. In view of these findings, it can be suggested that this impact on quality of life related to emotional and social well-being is linked to the fact that malocclusion, from the patient's point of view, harms his aesthetics more than his function.

The final score for the CPQ ranged from 0 to 44. This data is in agreement with other studies<sup>20</sup>, in which the score also varied from 0 to 40 points.

The results obtained demonstrated the importance of orthodontic treatment of malocclusions that compromise facial aesthetics. The literature also emphasizes the influence of orthodontic treatment on the quality of life of adolescents through a considerable improvement in their standard of living after orthodontic treatment, especially in the emotional fields and in the social relationship of these individuals<sup>17,18,30</sup>. The results of this research are

compatible with this fact, since significant changes were also observed in the daily lives of young people and their families involved in this study.

In fact, it is important to know the impact of malocclusion on the quality of life of adolescents and their families in order to develop new strategies and campaigns to treat these problems. These measures, in addition to solving or minimizing oral problems, also restore the quality of life of young people, providing them with a development of daily activities such as eating or speaking better, in addition to healthy emotional and social development<sup>7,17,18</sup>.

## V. CONCLUSION

This work has shown that there is evidence that orthodontic treatment during adolescence improves the quality of life of these young people and their families, especially in their emotional and social well-being. Thus, it is necessary to develop instruments that help health professionals to diagnose not only oral disease, but also the quality of life of these patients. It is concluded that there was an association between the occurrence of bullying, the type of malocclusion and the improvement considered in the quality of life of adolescents through orthodontic treatment.

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Supplementary file – questionnaire



### Bullying Questionnaire (Simplified)

1) Have you ever suffered any kind of intimidation, aggression or harassment?

☐ Yes ☐ No

2) If yes, it was before or after you started your orthodontic treatment?

☐ Before ☐ After

3) What were the consequences of the intimidation, aggression or harassment suffered by you?

☐ It had no consequences ☐ Some bad consequences

☐ Terrible consequences ☐ Made you change schools

4) 4) How many times have you been bullied, assaulted or harassed?

☐ Once time ☐ Almost everyday

☐ Several times ☐ Many times a day

5) Who are you intimidated, assaulted or harassed?

☐ Boy ☐ Girl ☐ Boy and Girl

6) What kind of intimidation, aggression or harassment did you suffer?

☐ Physical ☐ Verbal ☐ Sexual ☐ Emotional ☐ Racist

7) 7) Have you ever intimidated, assaulted or harassed someone?

☐ Yes ☐ No

8) What do you think could have been done to solve this problem?

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**THANK YOU FOR HELPING US !!!!!**

**Annex E – CPQ Questionnaire – Quality of Life Assessment****Quality of life impact assessment questionnaire (CPQ)**

This research is being developed to better understand the problems caused by your teeth, mouth, lips and jaws. By answering these questions, you will be helping us to learn more about the experiences that teenagers have about these problems.

Please, REMEMBER:

- a) Do not write your name on the questionnaire;
- b) Answer sincerely what you can. Do not discuss anything with anyone about the questions while you are answering them. Your answers are confidential, no one will see them;
- c) Read each question carefully and think about your past experiences when you answer them;
- d) Place an (X) in the answer space that best matches your experience.

**SOME QUESTIONS ABOUT YOU:**

☐ Male

☐ Feminine

Date of birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

How would you rate the health of your teeth, lips, jaws and mouth?

☐ Great ☐ Very good ☐ Good ☐ Regular ☐ Bad

Does the condition of your teeth, lips, jaws and mouths affect your overall quality of life?

☐ No ☐ A little ☐ Moderately ☐ A lot ☐ Very much

**QUESTIONS ABOUT YOUR ORAL PROBLEMS**

In the last 3 (three) months, how often have you had?

1. Pain in your teeth, lips, jaws or mouth?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

2. Mouth sores?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

3. Badbreath?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

4. Food scraps stuck in or between your teeth?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

For the following questions, answer whether this happened because of your teeth, lips, jaws and mouth:

In the last 3 (three) months

5. Did it take longer than the others to finish your meal?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

In the last 3 (three) months, because of your teeth, lips, mouths and jaws, how often have you had:

6. Difficulty biting or chewing foods like apples, corn on the cob?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

7. Difficult to say a few words?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

8. Difficulty drinking or eating hot or cold food?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

Questions about your feelings and / or sensations: Have you ever experienced this feeling because of your teeth, lips, jaws or mouth?

If you felt this way for another reason, answer "never".

9. Are you angry or frustrated?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

10. Were you shy, embarrassed or ashamed?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

11. Are you upset?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

12. Were you worried about what other people think about your teeth, lips, mouth or jaws?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day

Questions about your activities in your spare time and in the company of others.

Have you ever had these experiences because of your teeth, lips, jaws or mouth?

If for any other reason, answer “never”.

In the last 3 (three) months, how often do you:

13. Did you avoid smiling or laughing when you are with other children?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day

14. Did you argue with other children or people in your family?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day

15. Did other children bother you or call you by nicknames?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day

16. Have other children asked you questions about your teeth, lips, jaws and mouth?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day

**THANK YOU FOR HELPING US !!!!!**

**Annex F - Parental Perceptions Questionnaire– PPQ****ORAL HEALTH QUESTIONNAIRE: PARENTS 'REPORT / RESPONSIBLE**

Dear parents or guardians

This questionnaire aims to assess the effects of orthodontic treatments on children's well-being and quality of life. Please answer all questions.

To answer the question, place an (X) in the space next to the answer that best describes your child's experience. If the question does not apply to your child, please answer "never".

Do not talk about the questions with your child, as in this questionnaire we are only interested in the opinion of those responsible.

**Section 1: Health and well-being**

1) How would you rate the health of your child's teeth, lips, jaws and mouth?

☐ Great ☐ Very good ☐ Good ☐ Regular ☐ Bad

2) To what extent is your child's general well-being affected by the condition of his teeth, lips, jaws or mouth?

☐ No way ☐ Very little ☐ Moderately ☐ A lot ☐ Very much

**Section 2: The following questions address the symptoms and discomfort your child may experience due to the condition of their teeth, lips, mouth and jaws.**

In the past 3 (three) months, how often has your child had:

3) Pain in teeth, lips, jaws or mouth?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

4) Bleeding gums?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

5) Mouth sores?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

6) Bad breath?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

7) Food scraps in the roof of the mouth?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often



☐ Every day or almost every day ☐ Do not know

8) Food debris stuck inside or between the teeth?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

9) Difficulty biting or chewing food such as apples, corn cobs or meat?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

In the last 3 (three) months, because of your teeth, lips, mouth and jaws, how often does your child:

10) Did you breathe through your mouth?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

11) Did you have trouble sleeping?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

12) Did you find it difficult to say a few words?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

13) Did it take longer than others to finish your meal?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

14) Did you have difficulty drinking or eating hot or cold food?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

15) Did you have difficulties to eat foods that she would like to eat?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

16) Has the diet been restricted to certain types of food (example: soft foods)?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

**Section 3: The following questions refer to the effects that the conditions of the teeth, lips, mouth and jaws can have on feelings and their daily activities.**

In the last 3 (three) months, because of your teeth, lips, mouth and jaws, how often has your child been:

17) Upset?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

18) Irritable or frustrated?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

19) Anxious or afraid?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

In the last 3 (three) months, because of your teeth, lips, mouth and jaws, how often does your child:

20) Did you miss school (for example: due to pain, consultation with the dentist, surgery)?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

21) Did you have difficulty paying attention in the classroom?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

22) Didn't want to speak or read aloud in the classroom?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

23) Didn't want to talk to other kids?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

24) Did you avoid smiling or laughing in the company of other children?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

In the last 3 (three) months, because of your teeth, lips, mouth and jaws, how often does your child:

25) Were you worried that you think she is not as healthy as other people?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

26) Were you worried that you think she is different from other people?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

27) She was worried that she didn't look as good as other people?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

28) Did you act shyly, embarrassed or ashamed?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

29) Was it the target of play or nicknames by other children?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

30) Was it excluded by other children?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

31) Didn't or couldn't play with other children?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

32) Did not or could not participate in activities such as sports, clubs, theater, music, school trips?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

33) You were worried that you think she has few friends?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

34) You were worried about how other people think about your teeth, lips, mouth or jaws?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

35) Other children asked about her teeth, lips, mouth or jaws?

☐ Never ☐ Once or twice ☐ Sometimes ☐ Often

☐ Every day or almost every day ☐ Do not know

**THANK YOU FOR HELPING US !!!!!**

**Annex G - Family Impact Scale Questionnaire (FIS)****QUESTIONNAIRE ON THE IMPACT OF ORAL CONDITIONS FAMILY INVITATION: PARENTS 'REPORTS**

Dear parents or guardians

1. This questionnaire aims to assess the effects of oral conditions on children's well-being and day-to-day lives and the effects on their families. Please answer all questions.
2. To answer the question, please put an (X) in the space next to the answer that best describes your child's experience. If the question does not apply to your child, please answer "never".

**Please do not discuss the questions with your child, as in this questionnaire we are only interested in the opinion of parents / guardians.**

**The following questions address the effects that the child's oral condition may have on their parents or other family members.**

In the past 3 months, because of your child's teeth, lips, mouth or jaws, how often do you or another family member:

01. Got upset?

- ( ) Never ( ) Once or twice ( ) Sometimes ( ) Often  
( ) Every day or almost every day ( ) Do not know

02. Has your sleep been interrupted?

- ( ) Never ( ) Once or twice ( ) Sometimes ( ) Often  
( ) Every day or almost every day ( ) Do not know

03. Did you feel guilty?

- ( ) Never ( ) Once or twice ( ) Sometimes ( ) Often  
( ) Every day or almost every day ( ) Do not know

04. Did you have to leave work for any reason related to your child's oral health (for example: pain, consultation with the dentist or surgery)?

- ( ) Never ( ) Once or twice ( ) Sometimes ( ) Often  
( ) Every day or almost every day ( ) Do not know

05. Did you have less time for yourself or your family?

- ( ) Never ( ) Once or twice ( ) Sometimes ( ) Often  
( ) Every day or almost every day ( ) Do not know

06. Were you concerned that your child might have fewer opportunities in life (for example: dating, getting married, having children, getting a job that she likes)?

- ( ) Never ( ) Once or twice ( ) Sometimes ( ) Often  
( ) Every day or almost every day ( ) Do not know



07. Did you feel uncomfortable in public places (for example: shops, restaurants, parties) with your child?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

In the last 3 months, because of the teeth, lips, mouth or jaws, how often does your child:

08. Were you jealous of yourself or other family members?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

09. Did you blame yourself or another family member?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

10. Have you argued with yourself or other family members?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

11. Did it demand more attention from you or other family members?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

In the past 3 months, how often has the condition of your child's teeth, lips, mouth or jaws:

12. Did it interfere with family activities at home or elsewhere?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

13. Did it cause disagreement or conflict in your family?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

14. Did it cause financial difficulties for your family?

- ☐ Never ☐ Once or twice ☐ Sometimes ☐ Often  
☐ Every day or almost every day ☐ Do not know

Your child is of the sex: ☐ Male ☐ Feminine

Your child's age is: \_\_\_\_\_ years.

The questionnaire was completed: ☐ Mother ☐ Father ☐ Other \_\_\_\_\_

**THANK YOU FOR HELPING US !!!!!**