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Agreement between mothers and children with malocclusion in rating child oral health-related quality of life

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Abstract

Introduction: The aim was to compare the assessment of OH-QoL between children with malocclusion and their mothers, using the responses to the Child Perceptions Questionnaire (CPQ) and the Parental-Caregivers Perceptions Questionnaire (P-CPQ).

Methods: A sample of 90 children aged 11 - 14 years, with a malocclusion graded IOTN dhc categories 4 or 5 and their mothers, who completed the questionnaires independently.

Results: The mean ratings were similar for total score (20.4 child v 20.1 mother), oral symptoms (5.2 child v 4.7 mother) and social well-being (4.3 child v 4.8 mother); however the mother group had a lower mean score for functional limitations (5.3 child v 3.6 mother) and higher mean score for emotional well-being (5.6 child v 7.1 mother). The correlations between child and mother responses ranged from $r_s = 0.545$ for total score and emotional well-being to $r_s = 0.357$ for functional limitations. There were good correlations between mother and child responses to global ($r_s = 0.466$) and life overall ($r_s = 0.427$) questions; but poor correlations between the two questions suggesting these two concepts were considered different.

Conclusions: Maternal opinions are similar to that of their child for the overall impact on OH-QoL of malocclusion, however mothers were more dissatisfied with the appearance of their child's teeth and over-estimate the emotional impact of malocclusion. It would be useful to develop a specific measure to assess OH-QoL in children with malocclusion.

Introduction

Quality of life measures are increasingly being developed and used in dentistry as the importance of gaining the perspectives of patients and the public is acknowledged. Such measures are 'patient-centred' as they capture the way in which oral conditions impact on people's lives, rather than a narrow focus on disease and 'mouth-centred' approaches to assessment of oral health. Potential uses include political applications to influence policy makers, use in the development of theory by exploring models of health and use for practical purposes to evaluate the effectiveness of interventions or inform clinical encounters with individual patients^{1, 2}. Recently, oral health-related quality of life has been defined as "the impact of oral disorders on aspects of everyday life that are important to patients and persons, with those impacts being of sufficient magnitude, whether in terms of severity, frequency or duration, to affect an individual's perception of the life overall"³.

A number of measures have been designed to assess oral health-related quality of life (OH-QoL)⁴⁻⁸, although the relationship between the outcomes from these measures and OH-QoL has recently been questioned³. Many of the measures have been developed for use in adults and might not address issues relevant to children⁹.

A further problem with the assessment of quality of life is that it is a dynamic rather than a static phenomenon¹⁰. Individuals alter the standard by which they rate their OH-QoL over time, due to changes in circumstances or their physical and emotional development. To overcome this limitation it has been suggested that a range of measures should be used to evaluate OH-QoL, one of which could include information from parents or caregivers when child OH-QoL is being investigated¹¹.

Jokovic et al⁷ have developed the Child Oral Health Quality of Life Questionnaire (COHQOL), which includes age specific measures for children between the ages of 6 to 14 years (the Child Perceptions Questionnaire or CPQ), as well as the Parental-Caregiver Perceptions Questionnaire (P-CPQ)¹¹. The CPQ₁₁₋₁₄ and P-CPQ are comparable questionnaires with 31 items in common organised into four domains, namely oral symptoms, functional limitations, emotional and social well-being. In a study of 42 mothers and children, Jokovic et al¹² found generally good agreement within the groups. However there were significant discrepancies between pairs, particularly in the emotional and social well-being domains. This suggests that it would not be appropriate to use mothers as proxies for their children at the individual level.

Zhang et al¹³ examined agreement between P-CPQ and CPQ in mothers, fathers and children with an orthodontic treatment need in Hong Kong. They found that mothers and fathers rated OH-QoL as poorer than the children in all domains. Again, they showed that although there was generally good agreement between mothers and fathers at the group level, the agreement among mothers, fathers and their children at the individual level was poor. They concluded that not only did the children and parents have differing views about the impact of malocclusion, but that the two parents sometimes disagreed as well. This underlined the importance of consulting the whole family when discussing orthodontic need and treatment.

The aim of this study was to examine the relationship between reports of OH-QoL from children with malocclusion and their mothers in a UK sample. More specifically we examined more closely in which of the four domains of the COHQOL the agreement or disagreement occurred and to what extent it was apparent.

Subjects and Methods

Ethical approval was granted by the South Sheffield Research Ethics Committee (Ref Nos 03/262) and site specific issues were reviewed by the Research and Development Department at Chesterfield Royal Hospital.

The sample consisted of consecutive orthodontic patients between the ages of 11 and 14 years who were removed from a treatment waiting list, had had pre-treatment records taken and were considered ready to start treatment at the Charles Clifford Dental Hospital (CCDH), Sheffield or the Chesterfield and North Derbyshire Royal Hospital (CNDRH), Chesterfield. The individuals were recruited to a study examining the effect of malocclusion on OH-QoL¹⁴. They were assessed to be in grades 4 or 5 of the Index of Orthodontic Treatment dental health component by a trained and calibrated examiner and all agreed to take part before starting treatment. Patients with active dental disease, cleft lip and/or palate, a complicating medical history, or severe dental mottling were excluded. A sample size calculation suggested that ninety patients would need to be recruited to detect a difference of thirty percent in the total CPQ ($\alpha = 0.05$; $\beta = 0.90$) between individuals with and without malocclusion¹⁴.

The child and whichever parent was present at the consultation were asked to independently complete the Child Perception Questionnaire for children aged 11-14 years (CPQ₁₁₋₁₄) and the Parental-Caregiver Perceptions Questionnaire (P-CPQ) respectively. The child and parent completed the questionnaires separately in a quiet area of the orthodontic clinic with a researcher available to answer any questions. Both the CPQ and P-CPQ have been evaluated for use in the UK and found to have acceptable psychometric properties^{15, 16}. This questionnaires also include two global questions, firstly rating the health of their/their child's teeth, lips, jaws and mouth and secondly how much their/their child's teeth, lips, jaws or mouth affected their life overall. These global questions have been previously evaluated¹⁷ and were worded: "Would you say that the health of your teeth, lips, jaws and mouth is ...?" with a 5-point response format ranging from 'Excellent' to 'Poor' and "How much does the condition of your teeth, lips, jaws or mouth affect your life overall?" with a response range from 'Not at all' to 'Very much'. A third question asked how satisfied they were with their/their child's teeth on a five point scale from 'Very satisfied' to 'Very dissatisfied'.

Data Analysis

The response option codes used for both CPQ and P-CPQ were 0 for 'Never'; 1 for 'Once or twice'; 2 for 'Sometimes'; 3 for 'Often'; and 4 for 'Everyday or almost everyday'. The P-CPQ questions also had a 'Don't Know' response option which was given a score of 0 in the analysis¹⁸. The 'Don't Know' response was included in the parental questionnaire to acknowledge the limitations of parent's knowledge of their child's oral health or everyday activities. Total and domain scores were obtained by summing the response option codes for each question. The response format for the global, life overall and satisfaction with teeth questions were also on a 5 point Likert scale.

The relationship between CPQ and P-CPQ was assessed in a number of ways. Comparisons were made by examining the mean scores and differences between the scores. Mean directional differences were tested using a paired *t* test. The magnitude of any systematic differences was examined by dividing the mean by the standard deviation to obtain a standardized difference¹². A standardized difference of 0.2 was assessed to be small, 0.5 moderate and 0.8 to be large¹¹. An absolute mean difference was calculated by ignoring the positive and negative sign of the individual differences. This was then expressed as a percentage of the maximum score to assess the size of the absolute differences.

Discrepancies between parent and child were also assessed by subtracting the child score from the parent score and using the standard deviation of the differences between the parent and child scores to rate concordance. The scores were rated similar when the difference between the parent and child scores was within one half standard deviation above or below a difference of zero¹⁹. Those scores where the difference was greater than one half standard deviation below an overall difference of zero the child was rated as giving a higher score than the parent. Those scores where the difference was greater than one half standard deviation above an overall difference of zero the parent was rated as giving a higher score than the child.

The internal consistency of the measure when used in this sample was assessed using Cronbach's alpha. The association between the parent and child responses to the global question, the life overall, the satisfaction with teeth and the CPQ and P-CPQ total and domain scores were examined using Spearman correlation. Agreement was assessed using intraclass correlation coefficients.

Results

A total of 116 pairs of children and their parents/caregivers completed both questionnaires. The parents/caregivers consisted of 90 mothers, 20 fathers and 6 others. Because of the small numbers of fathers and others only the responses between the child and the mother were compared. The gender and age of these children are shown in Table I.

The number of 'Don't Know' responses per mother ranged from 0 to 12. Almost half (47.8%) of the mothers responded 'Don't Know' one or more times, 28.9 percent had three or more 'Don't Know' responses and 15.6 percent had six or more...

Reliability analysis

The Cronbach's alphas for the Total CPQ score was 0.91 and for the Total P-CPQ score was 0.90. The Cronbach's alpha for the respective CPQ and P-CPQ domain scores were oral symptoms 0.70 and 0.58; functional limitations 0.58 and 0.67; emotional well-being 0.89 and 0.90; and the social well-being 0.74 and 0.77. These figures are slightly lower than those obtained by Jokovic et al¹¹, but still represent good internal consistency.

Comparison of responses from children and mothers

Comparisons between the mean total and four domain scores from the CPQ₁₁₋₁₄ and P-CPQ responses are shown in Table II. The mean ratings were similar for the total score (20.4 child v 20.1 mother), oral symptoms (5.2 child v 4.7 mother) and social well-being (4.3 child v 4.8 mother) domains. Differences in the mean scores suggest that mothers underestimated the functional impacts (5.3 child v 3.6 mother) and over-estimated the emotional impacts (5.6 child v 7.1 mother) compared with the children's scores.

The difference between the answers of the children and their mothers in the functional impacts domain was mainly due to two questions. The biggest discrepancy in responses was to the question 'In the past 3 months, because of your/child's teeth, mouth, lips and jaws how often have you/your child breathed through the mouth?' The proportion of children responding 'Never' to this question was 26 percent; whereas the proportion of mothers responding 'Never' was 43 percent and 20 percent responded 'Don't Know'. The second question causing the discrepancy in the functional domain was the question 'In the past 3 months, because of your/child's teeth, mouth, lips and jaws how often have you/your child taken longer than others to eat a meal?' The proportion of children responding 'Never' to this question was 50 percent; whereas the proportion of mothers responding 'Never' was 75 percent, with no mothers responding 'Don't Know'.

The difference in the answers between child and mother in the emotional well-being domain was also mainly due to the responses to two questions. The question 'In the past 3 months, because of your/child's teeth, mouth, lips and jaws how often have you/your child been upset?' produced a 'Never' response in 64 percent of children compared to 44 percent of mothers, with just 3 mothers choosing the 'Don't Know' response. The question 'In the past 3 months, because of your/child's teeth, mouth, lips and jaws how often have you/your child been nervous, anxious or fearful?' produced a 'Never' response in 72 percent of children compared to 50 percent of mothers, with seven mothers choosing 'Don't Know'.

Table III shows the mean directional differences and confirms that the responses for the functional limitations ($p < 0.001$) and emotional domains ($p = 0.026$) were significantly different. The standardized differences are shown in Table IV. They were generally small, ranging from

-0.02 for the Total score to -0.46 for the functional limitations domain, which is approaching moderate disagreement. The absolute differences for the total and domain scores are also shown in Table IV. They ranged from 0 to 31, with 59% of the child-mother pairs showing a difference of 10 or less. The mean absolute differences ranged from 7% of the maximum score for the social well-being domain to 15% of the maximum score for the emotional domain

Nearly one half of the mother and child total scores (46%) were within a half standard deviation above and below a difference of zero. Whereas this was true for only one quarter of the functional limitations domain, with 52 percent of the children scoring higher than the mother. Conversely 41 percent of the mothers scored higher than the children in the emotional well-being domain. The concordance between mother and child was similar for both the oral symptoms and social well-being domains.

Table V shows the mean scores from the global, life overall and satisfaction with teeth questions and Table VI shows the correlations between the mother and child responses to the global question, the life overall, the satisfaction with teeth and the CPQ and P-CPQ total and domain scores. The Spearman correlations ranged from 0.545 for Total CPQ and emotional well-being to 0.097 for satisfaction with teeth. The correlations were all significant except for satisfaction with teeth. The intraclass correlation coefficients ranged from substantial for social well-being (0.62) to moderate for oral symptoms 0.42²⁰. The association between the global and life overall responses were weak for both the children (0.390) and for the mothers (0.265).

Figure 1 shows the concordance between the child and mother for the global, life overall and satisfaction with teeth questions. The concordance between pairs for the global and life overall questions was good. Mothers and children gave the same score for the global rating in 39 percent of pairs and 92 percent were within one point either side of the score. The results for the life overall question were also very similar with 38 percent being equal and 87 percent within one point either side. The concordance for the satisfaction with teeth question was poor with only 19 percent of child and mother pairs recording the same score and in 46 percent of pairs the mother scored higher than the child i.e. nearly one half of mothers were more dissatisfied with their child's teeth than their child was.

Discussion

This study found generally good agreement between a child with malocclusion and their mother at the group level regarding their perceptions of the impact of occlusal deviations. Mean, standardized and absolute differences were small for the total Child Perceptions Questionnaire and the Parental-Caregiver Perceptions Questionnaire scores, as well as the oral symptoms and social well-being domains.

The number of children and mothers involved was of the same order as similar studies published in this area^{12, 13}. Although the sample size was based on the difference in the total CPQ between a group with and without malocclusion, a power calculation using the data obtained showed that a sample size of 90 provided a power of 0.87 to detect a 40 percent difference in the total CPQ between child and mother (sd of the differences 12.4).

The results of this study differs from that of Jokovic et al¹², who found that Canadian children had higher overall CPQ scores compared with their maternal P-CPQ; however they also concluded that there was good agreement between mothers and children at the group level. Their sample consisted of children with a variety of dental problems, including orthodontic conditions, but also orofacial conditions, which might have been more severe than those represented in this study.

Zhang et al¹³ found that children with malocclusion had significantly lower CPQ scores (i.e. rated their OH-QoL better) than their parents across all domains, although the functional limitations and social well-being domains were not statistically significant. Their sample consisted of children with malocclusion accepted for orthodontic treatment, but it is not clear from the report where the study was undertaken and whether cultural differences might explain this difference in outcome²¹. The intra-class correlation coefficients for the total and domain scores in this study were lower than those found by Jokovic et al¹², but higher than those of Zhang et al¹³ and might be a reflection of the differences in the samples.

Wilson-Genderson et al¹⁹ found low to moderate agreement between the child and caregiver when using the Child Oral Health Impact Profile. Their sample consisted of children with paediatric, orthodontic and craniofacial conditions from three sites in North America. The lowest correlations were located in the craniofacial group and they concluded that individuals in the paediatric and orthodontic groups were more likely to agree with caregivers or to rate their OH-QoL more negatively than the craniofacial group.

There was a statistically significant systematic difference between the child and mother scores in the functional and emotional domains in this study. Examination of the mean differences gives an indication of the discrepancies within the group, but the more important comparisons for these data are the differences within mother and child pairs. This was determined using standardized and absolute differences as well as the concordance levels. There was a higher standardized difference for the functional and emotional domains, as well as a higher absolute difference for the emotional domain. Upon closer examination of the responses to individual questions it was clear that the differences between child and mother was due to two out of the seven questions in the functional domain and two out of the eight questions in the emotional well-being domain.

In the functional domain mothers underestimated the frequency of mouth-breathing and the length of time it took for their child to eat a meal compared with their children. Jokovic et al¹² also found poor agreement between children and mothers for this question in the functional domain; however this question also produced the largest number of 'Don't Know' responses from mothers which concurs with previous work¹⁸. A high prevalence of 'Don't Know' responses by the mother does not represent a difference in views between mother and child, but a lack of knowledge as to whether their child is afflicted with this particular condition. This finding therefore needs to be interpreted with caution.

The mouth-breathing item produced one of the highest prevalence of impacts from the children's responses, as 74 percent of children scored this as occurring Once or Twice or more frequently in the past 3 months, with a mean item score of 2.0. The frequency with which children report the incidence of mouth-breathing might suggest that they consider this to be a normal activity, rather than an impact on their life due to an oral condition. Therefore this may not be a useful question to include in a questionnaire designed to assess OH-QoL and it was excluded from the short form of the questionnaire²². This finding also supports the need for qualitative work with children on the measure and its meaning for them, as there are a number of questions, particularly in the oral symptom and functional limitation domains of CPQ that might not seem relevant to patients with malocclusion. Hence it may be appropriate to develop a condition-specific measure to assess OH-QoL in children with malocclusion²³. The relevant content of a malocclusion-specific measure would make it more sensitive, acceptable to participants and responsive to change²⁴. Such a measure could be used to evaluate the relative effectiveness of different orthodontic treatments or to monitor individual patient care or patient preference.

In the emotional domain the mothers overestimated how frequently the teeth, lips, mouth or jaws caused their children to be upset, as well as nervous, afraid, anxious or fearful compared with their child's responses. Jokovic et al¹² also found poor agreement between child and mother for the former question. The latter question has different wording between

the Child Perceptions Questionnaire and the Parental-Caregiver Perceptions Questionnaire. The CPQ asks the child how often they have 'Felt nervous or afraid?', whereas the P-CPQ asks the parent how often their child has been 'Anxious or fearful?' This difference in wording between the two questionnaires might explain the difference in responses, however unlike this study Jokovic et al¹² found good agreement between child and mother for this question.

The responses to the global and life overall questions were similar to that of Jokovic et al²⁵ who found that 77 percent of children in their sample rated the health of their teeth, lips, jaws and mouth as excellent to good. In this study 76 percent of children rated their oral health excellent to good, compared with 68 percent of their mothers. Therefore the majority of both children and mothers did not view the child's malocclusion as detrimental to their oral health. Just under one half of the children (43%) said that the condition of their teeth, lips, jaws and mouth affected their life some, a lot, or very much, compared with just over one half of mothers (52%). This is a higher proportion than Jokovic et al²⁵ who found that 30 percent of children said that the condition of their teeth, lips, jaws and mouth affected their life some, a lot, or very much.

A similar proportion of children (44%) and mothers (48%) who stated that their/child's oral health was excellent to good also responded that their/child's teeth affected their life some, a lot or very much. Whereas a higher proportion of children (59%) compared with mothers (38%) who stated that their/child's oral health was fair or poor also claimed that their/child's teeth affected their life little or not at all. These data support the view of Jokovic et al²⁵ that children and to a lesser extent their parents view the concepts of health and well-being differently. This seems particularly to apply in our sample of children with malocclusion, which can be viewed not as a disease, but as a condition which varies from that which is considered normal by society.

Our study found that mothers expressed more dissatisfaction with their child's teeth than the child. This is a common finding. Evans and Shaw²⁶ showed that parents were more critical of their child's teeth than the child when developing a scale rating dental attractiveness. Chew and Aw²⁷ found a larger proportion of parents were dissatisfied with their child's dental appearance and had a greater desire for their child to undergo orthodontic treatment than their children. Although it is important to involve parents in the decision whether or not the child should undergo orthodontic treatment, clinicians should be cautious about over-emphasizing parent's opinions, as they may exaggerate the impact of dental appearance on the child. In this study the mother over-estimated the emotional impacts of a malocclusion compared with the opinion of the child. Hunt et al²⁸ found that parents of children with cleft lip and palate considered their child to be more unhappy with their facial appearance than their actually child was. Patel et al²⁹, using a video-based assessment of the children smiling, found a poor correlation between the child's self assessment of their smile and the parents proxy assessment based on the responses to the questions - 'My child likes his/her smile' and 'My child is happy with his/her teeth'.

In addition, the parental desire for orthodontic treatment for their child might not be rationalised in terms of the perceived psycho-social benefits. Birkeland et al³⁰ examined the relationship between dental appearance and satisfaction longitudinally in orthodontically treated and untreated individuals. They found that although 92 percent of treated children's parents were sure that they would choose to let their child go through the same treatment again, only 34 percent were sure that the treatment result was of a positive importance to their child's social skill, 23 percent that it was likely that it would have a positive influence on the future choice of mate and 19 percent that it would be of significance for their child's future working career. The use of an oral health related quality of life measure at the start of treatment completed by child and parent would help identify the concerns of both parties and would enable the provision of appropriate help and guidance when making decisions about whether the child should undergo treatment.

Conclusions

The CPQ scores of a child with malocclusion and the P-CPQ scores of their mother were similar, suggesting there was good agreement between the two on the effect of occlusal deviations on the oral health related quality of life of the child. We therefore support the view of obtaining parental opinions, as a supplement to information from the child, however not to replace that information.

Mothers of children with malocclusion were more dissatisfied with the appearance of their child's teeth than the child; however they over-estimated the emotional impact of malocclusion on the child. This outlines the need to provide appropriate advice and guidance to parents, along with their children when discussing the provision of orthodontic services.

The majority of children and mothers did not believe that malocclusion affected the oral health of the child, however one half believed that it affected their life overall, therefore the two concepts were considered different.

It would be useful to develop a specific measure to assess OH-QoL in children with malocclusion.

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Table I
Descriptive characteristics for the children in the study.

		N	%
Gender	Male	34	37.8%
	Female	56	62.2%
Age (years)	11	14	15.6%
	12	23	25.6%
	13	22	24.4%
	14	31	34.4%
Mean (SD)		13.3	1.1

Table II

Comparisons of the mean total and four sub-domain scores from the child CPQ₁₁₋₁₄ and maternal P-CPQ responses.

	No. of items	Child				Mother			
		Mean	Sd	Min	Max	Mean	Sd	Min	Max
Total Score (0 - 124)	31	20.4	12.7	0	50	20.1	14.8	1	73
Domains									
Oral symptoms (0 - 24)	6	5.2	3.4	0	13	4.7	3.2	0	13
Functional limitations (0 - 28)	7	5.3	3.6	0	19	3.6	3.9	0	18
Emotional well-being (0 - 32)	8	5.6	5.4	0	21	7.1	6.6	0	25
Social well-being (0 - 40)	10	4.3	4.1	0	20	4.8	4.8	0	20

Table III

Mean directional differences between the total and four sub-domain scores from the paired child CPQ₁₁₋₁₄ and maternal P-CPQ data.

Child CPQ - Maternal P-CPQ	Mean Difference	Sd	95% CI of Diff		p
			Lower	Upper	
Total score	0.3	12.4	-2.3	2.9	0.826
Domains					
Oral symptoms	0.5	3.6	-0.2	1.2	0.185
Functional limitations	1.7	3.7	0.9	2.5	<0.001
Emotional well-being	-1.4	6.0	-2.7	-0.2	0.026
Social well-being	-0.5	3.9	-1.3	0.3	0.224

Table IV

Standardized and absolute differences between the total and four sub-domain scores from the paired child CPQ₁₁₋₁₄ and maternal P-CPQ data.

	Standardized Differences (Mean/sd)	Absolute Differences		
		Mean	Sd	% of Max Score
Total score	-0.02	9.6	7.8	8%
Domains				
Oral symptoms	-0.14	2.8	2.2	12%
Functional limitations	-0.46	3.2	2.5	12%
Emotional well-being	0.24	4.7	4.0	15%
Social well-being	0.13	2.7	2.8	7%

Table V

Comparison of the mean scores from the global, life overall and satisfaction with teeth questions.

	Child		Mother	
	Mean	Sd	Mean	Sd
Would you say the health of your (child's) teeth, lips, jaws and mouth is: (0 = excellent to 5 = poor)	2.0	0.8	2.1	1.0
How much does the condition of your teeth, lips, jaws or mouth affect your (child's) life overall? (0 = not at all to 5 = very much)	1.4	1.0	1.5	1.0
How satisfied are you with the appearance of your (child's) teeth? (0 = very satisfied to 5 = very dissatisfied)	2.2	0.9	2.9	1.3

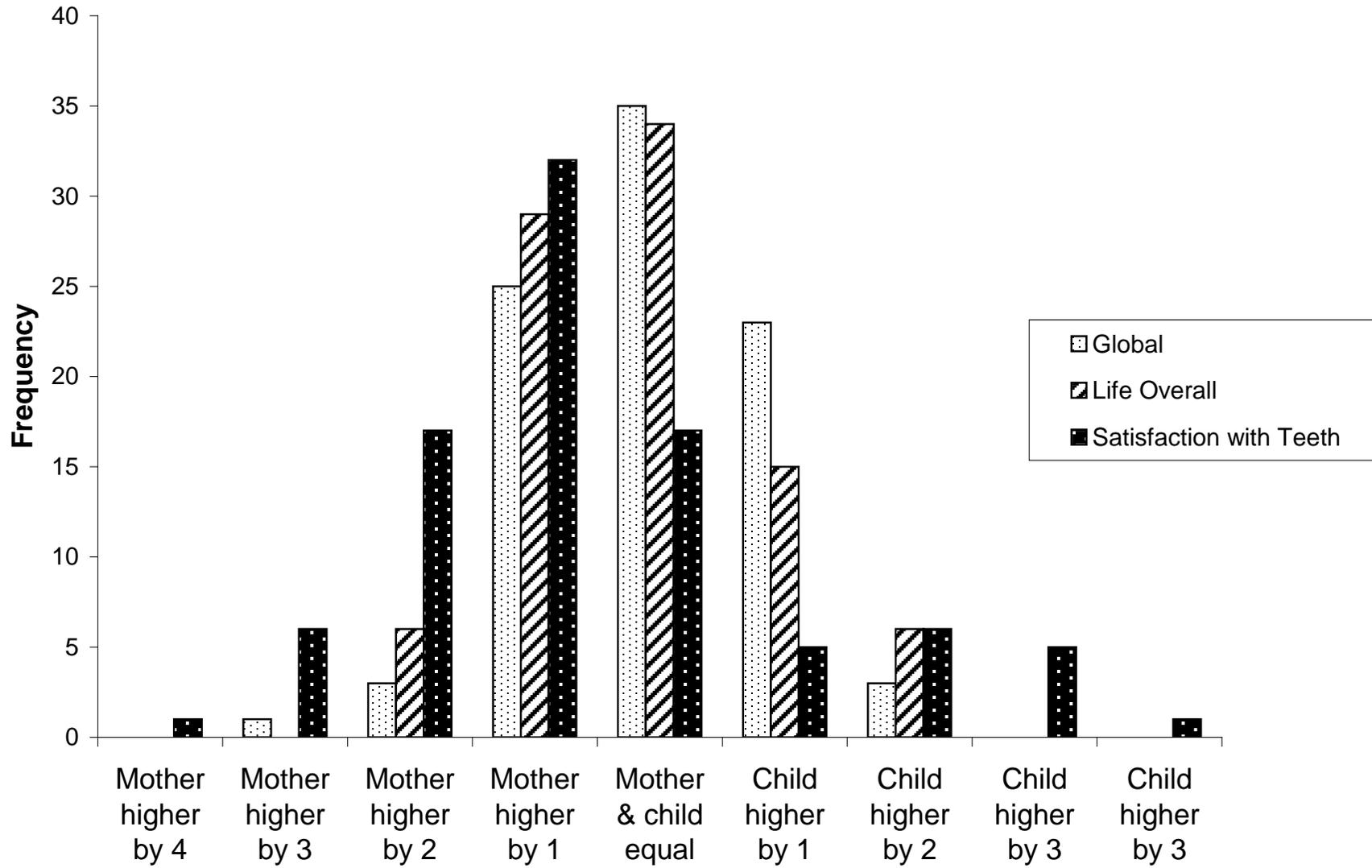
Table VI

The Spearman and intraclass correlation coefficients for the mother and child responses to the global question, the life overall, the satisfaction with teeth and the CPQ and P-CPQ total and domain scores.

	Spearman	p	ICC
Global	0.466	<0.001	-
Life overall	0.427	<0.001	-
Satisfaction with teeth	0.097	0.365	-
Total CPQ/P-CPQ	0.545	<0.001	0.60
Sub-domains			
Oral symptoms	0.403	<0.001	0.42
Functional limitations	0.357	0.001	0.45
Emotional well-being	0.545	<0.001	0.49
Social well-being	0.535	<0.001	0.62

Figure 1

Graph showing the concordance between the mother and child for the global, life overall and satisfaction with teeth questions.



Legends

Table I

Descriptive characteristics for the children in the study.

Table II

Comparisons of the mean total and four sub-domain scores from the child CPQ₁₁₋₁₄ and maternal P-CPQ responses.

Table III

Mean directional differences between the total and four sub-domain scores from the paired child CPQ₁₁₋₁₄ and maternal P-CPQ data.

Table IV

Standardized and absolute differences between the total and four sub-domain scores from the paired child CPQ₁₁₋₁₄ and maternal P-CPQ data.

Table V

Comparison of the mean scores from the global, life overall and satisfaction with teeth questions.

Table VI

The Spearman and intraclass correlation coefficients for the mother and child responses to the global question, the life overall, the satisfaction with teeth and the CPQ and P-CPQ total and domain scores.

Figure 1

Graph showing the concordance between the mother and child for the global, life overall and satisfaction with teeth questions.