**Valuation of CARIES-QC-U: a child-centred preference-based measure of dental caries**

Rogers HJ,[1] Sagebiel J,[2] Marshman Z,[3] Rodd HD,[3] Rowen D[4]


1) School of Dental Sciences, Faculty of Medical Sciences, Newcastle University, Newcastle-upon-Tyne, UK

2) Julian Sagebiel, Department of Economics, Swedish University of Agricultural Economics, Uppsala, Sweden

3) Unit of Oral Health, Dentistry and Society, School of Clinical Dentistry, University of Sheffield, UK

4) Health Economics and Decision Science, School of Health and Related Research, University of Sheffield, UK


**Corresponding author:** Helen J Rogers (ORCID: 0000-0001-5031-5009), School of Dental Sciences, Newcastle University, UK. Email: helen.rogers@newcastle.ac.uk
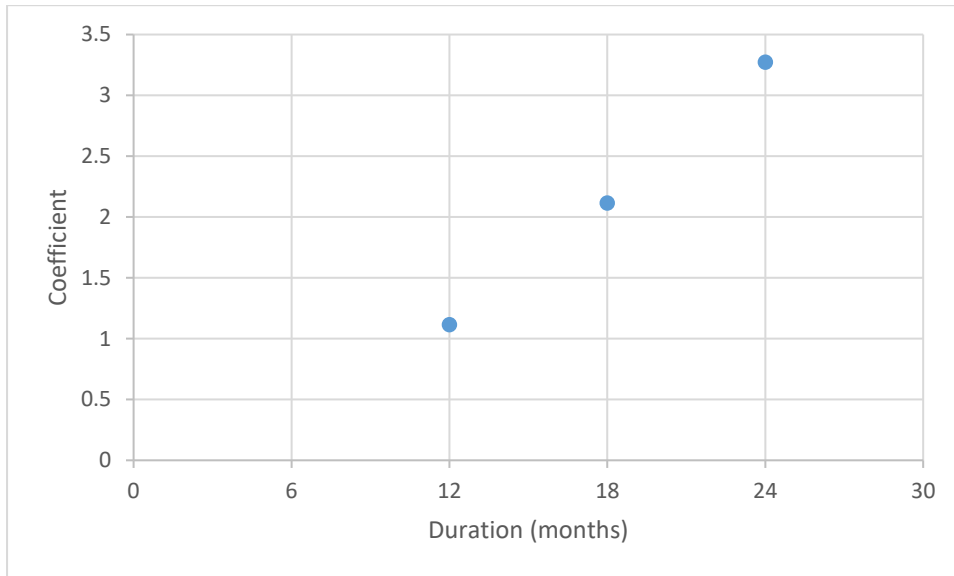
**Figure S1: Plot demonstrating linearity of the duration attribute in the DCE$_{TTO}$ tasks**
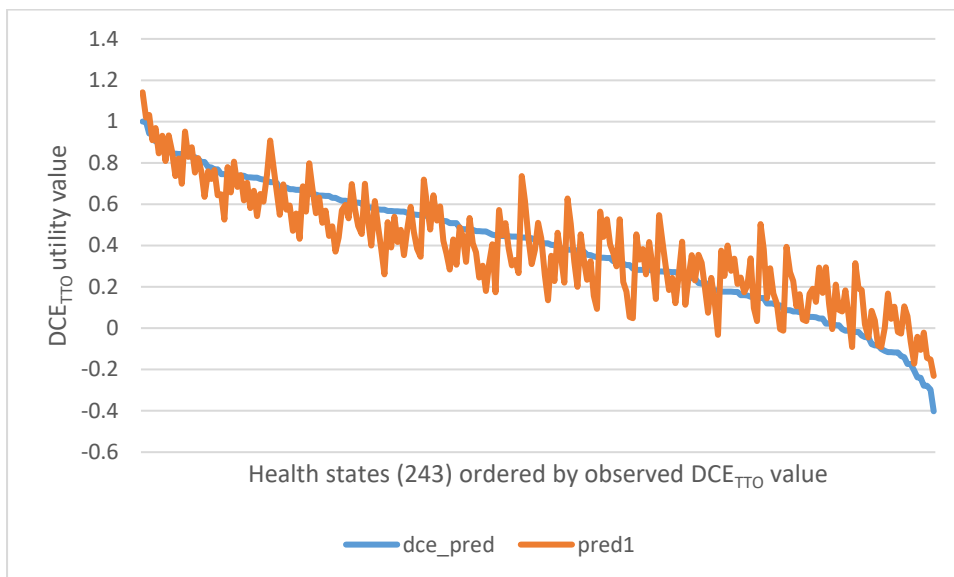


**Figure S2: Plot showing the relationship between the estimated and observed values for the linear model**
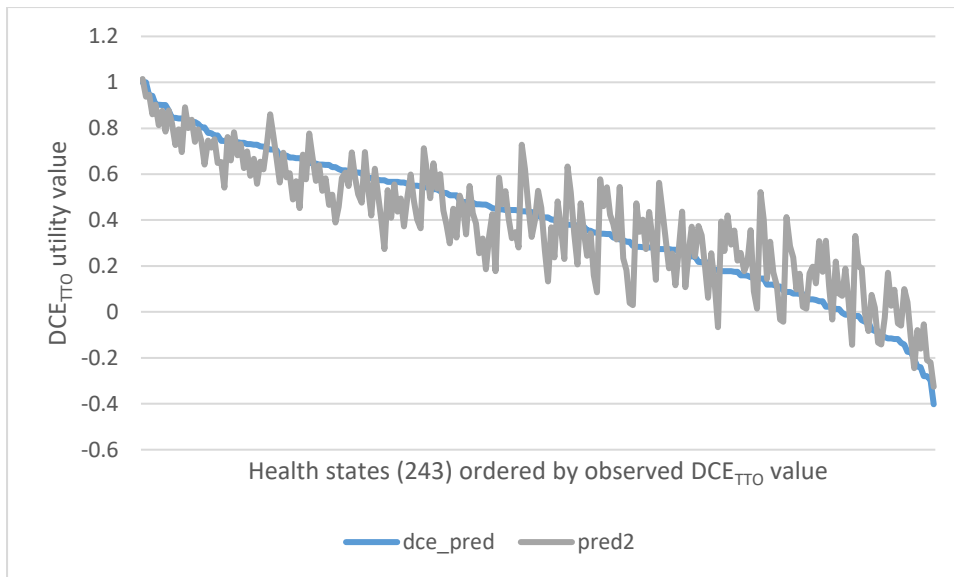
**Figure S3: Plot showing the relationship between the estimated and observed values using the quadratic model**
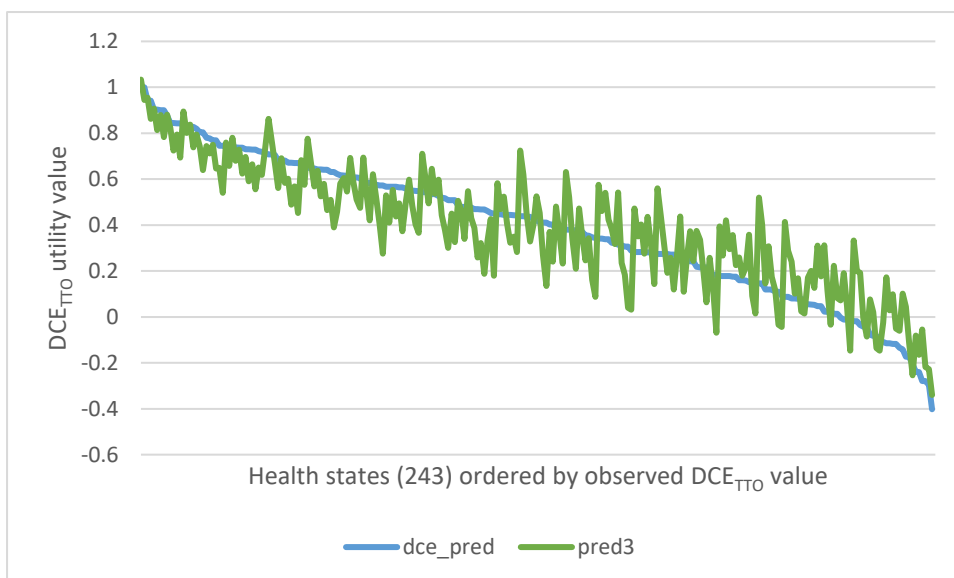


**Figure S4: Plot showing the relationship between the estimated and observed values using the cubic model**

**Table S1: CARIES-QC contains the 13 questions shown here alongside the related items and response levels (reproduced from Rogers et al, 2020)**

| Question from CARIES-QC | Item | Response levels |
|---|---|---|
| How much do your teeth hurt you? | Hurt | Not at all<br>A bit<br>A lot |
| Do your teeth make it hard to eat some foods? | Hard to eat | Not at all<br>A bit<br>A lot |
| Do you have to eat on one side of your mouth because of your teeth? | One side | Not at all<br>A bit<br>A lot |
| Do you get food stuck in your teeth? | Food stuck | Not at all<br>A bit<br>A lot |
| How much do you get kept awake by your teeth? | Kept awake | Not at all<br>A bit<br>A lot |
| How much do your teeth annoy you? | Annoy | Not at all<br>A bit<br>A lot |
| How much do your teeth hurt when you brush them? | Brushing | Not at all<br>A bit<br>A lot |
| Do you have to eat more carefully because of your teeth? | Carefully | Not at all<br>A bit<br>A lot |
| Do you have to eat more slowly because of your teeth? | Slowly | Not at all<br>A bit<br>A lot |
| Do you feel cross because of your teeth? | Cross | Not at all<br>A bit<br>A lot |
| How much have you cried because of your teeth? | Cried | Not at all<br>A bit<br>A lot |
| Do your teeth make it hard to do your schoolwork? | School | Not at all<br>A bit<br>A lot |
| How much of a problem are your teeth for you? | Global | Not at all<br>A bit<br>A lot |

**Table S2: Marginal choice frequencies for data obtained from soft launch of adolescent BWS survey**

| Attribute | Descriptor | Best | Worst |
|-----------|-----------|------|-------|
| **Hurt1** | My teeth do not hurt me at all | **0.602** | 0.050 |
| **Hurt2** | My teeth hurt me a bit | 0.068 | 0.166 |
| **Hurt3** | My teeth hurt me a lot | 0.030 | 0.474 |
| **Annoy1** | My teeth do not annoy me at all | 0.479 | 0.114 |
| **Annoy2** | My teeth annoy me a bit | 0.183 | 0.087 |
| **Annoy3** | My teeth annoy me a lot | 0.090 | 0.195 |
| **Awake1** | My teeth do not keep me awake at all | 0.328 | 0.073 |
| **Awake2** | My teeth keep me awake a bit | 0.048 | 0.160 |
| **Awake3** | My teeth keep me awake a lot | 0.050 | 0.307 |
| **Eat1** | My teeth do not make it hard to eat some foods | 0.350 | 0.120 |
| **Eat2** | My teeth make it a bit hard to eat some foods | 0.171 | 0.159 |
| **Eat3** | My teeth make it really hard to eat some foods | 0.093 | 0.272 |
| **Cry1** | My teeth do not make me cry at all | 0.466 | 0.071 |
| **Cry2** | My teeth make me cry a bit | 0.027 | 0.224 |
| **Cry3** | My teeth make me cry a lot | 0.027 | **0.521** |

Notes: Highest best and worst frequencies are displayed in **bold.** Hurt1: my teeth do not hurt me at all; Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy1: my teeth do not annoy me at all; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake1: my teeth do not keep me awake at all; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat1: my teeth do not make it hard to eat some foods; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry1: my teeth do not make me cry at all; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot

**Table S3: Regression results and anchored utility decrements using soft launch data of DCE<sub>TTO</sub> survey for CARIES-QC-U**

| Variables | Estimated regressions | Anchored values |
|---|---|---|
| **Hurt2_LY** | -0.066*** | -0.172 |
|  | (0.000) |  |
| **Hurt3_LY** | -0.228*** | -0.590 |
|  | (0.000) |  |
| **Annoy2_LY** | 0.001 | 0.002 |
|  | (0.978) |  |
| **Annoy3_LY** | -0.049** | -0.126 |
|  | (0.016) |  |
| **Awake2_LY** | -0.020 | -0.051 |
|  | (0.314) |  |
| **Awake3_LY** | -0.114*** | -0.295 |
|  | (0.000) |  |
| **Eat2_LY** | -0.026 | -0.068 |
|  | (0.207) |  |
| **Eat3_LY** | -0.072*** | -0.188 |
|  | (0.001) |  |
| **Cry2_LY** | -0.050** | -0.130 |
|  | (0.014) |  |
| **Cry3_LY** | -0.146*** | -0.378 |
|  | (0.000) |  |
| **LY** | 0.386*** |  |
|  | (0.000) |  |
|  |  |  |
| **Observations** | 1,818 |  |
| **Log likelihood** | -500.6 |  |
| **Rho-squared** | 0.205 |  |

Notes: p-values are in parentheses, where *** p<0.01, ** p<0.05, * p<0.1. An underscore (_) represents an interaction between variables i.e. Hurt2_LY is Hurt2 multiplied by LY. Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot; LY: duration

**Table S4: Sociodemographic characteristics of adult participants in the soft launch of the DCE_{TTO} survey**

| Sociodemographic and health characteristics | Adults n=99 (%) | Population norms % |
|---|---|---|
| **Gender** | | |
| Male | 58 (57.4) | 49.1[a] |
| Female | 43 (42.6) | 50.9[a] |
| Other | 0 (0.00) | - |
| | | |
| **Age** | | |
| 18-24 | 1 (1.0) | 12.0[b] |
| 25-34 | 6 (6.0) | 17.0[b] |
| 35-44 | 14 (13.9) | 17.7[b] |
| 45-64 | 50 (49.5) | 32.5[b] |
| 65+ | 30 (29.7) | 20.8[b] |
| Prefer not to say | - | |
| | | |
| **Ethnicity** | | |
| White | 96 (95.1) | 87.2[a] |
| Asian/Asian British | 0 (0.0) | 6.2[a] |
| Black/African/Caribbean/Black British | 2 (2.0) | 3.0[a] |
| Mixed/Multiple ethnic groups | 2 (2.0) | - |
| Other ethnic group | 0 (0.0) | 2.9[a] |
| Prefer not to say | 1 (1.0) | - |
| | | |
| **Main activity** | | |
| In employment or self-employment | 45 (44.6) | 61.7[c] |
| Retired | 32 (31.7) | 13.9[c] |
| Housework | 7 (6.9) | 4.3[c] |
| Student | 2 (2.0) | 9.3[c] |
| Seeking work/unemployed | 6 (5.9) | 4.4[c] |
| Long term sick | 5 (5.0) | 4.3[c] |
| Prefer not to say | 1 (1.0) | - |
| Other | 3 (3.0) | 2.2[c] |
| | | |
| **Marital status** | | |
| Single | 21 (20.8) | 35.9[a] |
| Married/partner | 68 (67.3) | 47.0[a] |
| Separated/divorced | 8 (7.9) | 7.7[a] |
| Widowed | 3 (3.0) | 9.4[a] |
| Prefer not to say | 1 (1.0) | - |

Notes: [a]=proportion of total UK population [b]=proportion of UK adult population (aged over 18 years) [c]=proportion of English adult population (aged over 16 years)

**Table S5: Health-related characteristics of adult participants in the soft launch of the DCE$_{TTO}$ survey**

| Health characteristics | Adults n=99 (%) |
|---|---|
| **Self-reported general health: in general, how would you rate your health today?** | |
| Very good | 12 (11.9) |
| Good | 53 (52.5) |
| OK | 29 (28.7) |
| Bad | 6 (5.9) |
| Very bad | 1 (1.0) |
| | |
| **Self-reported dental health: how much of a problem are your teeth for you today?** | |
| Not at all | 53 (52.5) |
| A bit | 37 (36.6) |
| A lot | 11 (10.9) |
| | |
| **Self-reported caries experience: have you ever had a filling or a tooth taken out because it had a hole or cavity?** | |
| Yes | 85 (84.2) |
| No | 16 (15.8) |
| | |
| **Participant understanding** | |
| **Did you find the tasks:** | |
| Easy to understand | 68 (67.3) |
| Somewhere in the middle | 2 (2.0) |
| Difficult to understand | 31 (30.7) |
| | |
| **Did you find it:** | |
| Easy to choose an answer | 43 (42.6) |
| Somewhere in the middle | 18 (17.8) |
| Difficult to choose an answer | 40 (39.6) |

**Table S6: Self-reported general health and dental health of participants in the adolescent BWS and adult DCE$_{TTO}$ surveys**

| Health-related characteristics | Adolescents n=723 (%) | Adults n=626 (%) |
|---|---|---|
| **Self-reported general health: in general, how would you rate your health today?** | | |
| Very good | 383 (53.0) | 126 (20.1) |
| Good | 272 (37.6) | 297 (47.4) |
| OK | 59 (8.2) | 154 (24.6) |
| Bad | 9 (1.2) | 41 (6.6) |
| Very bad | 0 (0.0) | 8 (1.3) |
| | | |
| **Self-reported dental health: how much of a problem are your teeth for you today?** | | |
| Not at all | 450 (62.2) | 316 (50.5) |
| A bit | 249 (34.4) | 271 (43.3) |
| A lot | 24 (3.3) | 39 (6.2) |
| | | |
| **Self-reported caries experience: have you ever had a filling or a tooth taken out because it had a hole or cavity?** | | |
| Yes | 350 (48.4) | 498 (79.6) |
| No | 373 (51.6) | 128 (20.5) |
| | | |
| **How much do your teeth hurt you?** | | |
| Not at all | 573 (79.3) | 452 (72.2) |
| A bit | 134 (18.5) | 163 (26.0) |
| A lot | 16 (2.2) | 11 (1.8) |
| | | |
| **How much do your teeth annoy you?** | | |
| Not at all | 479 (66.3) | 340 (54.3) |
| A bit | 220 (30.4) | 239 (38.2) |
| A lot | 24 (3.3) | 47 (7.5) |
| | | |
| **How much do you get kept awake by your teeth?** | | |
| Not at all | 617 (85.3) | 562 (89.8) |
| A bit | 90 (12.5) | 56 (9.0) |
| A lot | 16 (2.2) | 8 (1.3) |
| | | |
| **Do your teeth make it hard to eat some foods** | | |
| Not at all | 550 (76.1) | 374 (59.7) |
| A bit | 151 (20.9) | 214 (34.2) |
| A lot | 22 (3.0) | 38 (6.1) |
| | | |
| **How much have you cried about your teeth?** | | |
| Not at all | 604 (83.5) | 546 (87.2) |
| A bit | 106 (14.7) | 67 (10.7) |
| A lot | 13 (1.8) | 13 (2.1) |

**Table S7: Participants' self-reported difficulty of understanding, difficulty of choice and ability to pass the dominance test**

| Participant understanding | Adolescents n=723 (%) | Adults n=626 (%) |
|---|---|---|
| **Did you find the tasks:** | | |
| Easy to understand | 501 (69.3) | 451 (72.0) |
| Somewhere in the middle | 171 (23.7) | 39 (6.2) |
| Difficult to understand | 51 (7.1) | 136 (21.9) |
| | | |
| **Did you find it:** | | |
| Easy to choose an answer | 440 (60.9) | 277 (44.3) |
| Somewhere in the middle | 215 (29.7) | 104 (16.6) |
| Difficult to choose an answer | 68 (9.4) | 245 (39.1) |
| | | |
| **Dominance test** | | |
| Pass* | 389 (53.8) | 578 (92.3) |
| Correctly identified 'best' attribute | 604 (83.5) | - |
| **Second attempt requested** | **n=38** | **n=26** |
| Pass* | 12 (31.6) of which 0 (0.0) had failed the first attempt | 23 (92.0) of which 18 (78.3) had failed the first attempt |
| Correctly identified 'best' attribute | 34 (89.5) | - |

Notes: *both 'best' and 'worst' attributes needed to be identified correctly for adolescents to 'pass' the BWS dominance test. NB. There is no agreed dominance test for BWS.

**Table S8: Marginal choice frequencies for data obtained from adolescent BWS survey**

| Variables | Descriptor | Best | Worst |
|---|---|---|---|
| **Hurt1** | My teeth do not hurt me at all | **0.614** | 0.047 |
| **Hurt2** | My teeth hurt me a bit | 0.087 | 0.166 |
| **Hurt3** | My teeth hurt me a lot | 0.040 | 0.489 |
| **Annoy1** | My teeth do not annoy me at all | 0.404 | 0.074 |
| **Annoy2** | My teeth annoy me a bit | 0.171 | 0.121 |
| **Annoy3** | My teeth annoy me a lot | 0.079 | 0.206 |
| **Awake1** | My teeth do not keep me awake at all | 0.341 | 0.081 |
| **Awake2** | My teeth keep me awake a bit | 0.074 | 0.141 |
| **Awake3** | My teeth keep me awake a lot | 0.056 | 0.305 |
| **Eat1** | My teeth do not make it hard to eat some foods | 0.346 | 0.107 |
| **Eat2** | My teeth make it a bit hard to eat some foods | 0.156 | 0.168 |
| **Eat3** | My teeth make it really hard to eat some foods | 0.077 | 0.277 |
| **Cry1** | My teeth do not make me cry at all | 0.455 | 0.070 |
| **Cry2** | My teeth make me cry a bit | 0.052 | 0.247 |
| **Cry3** | My teeth make me cry a lot | 0.044 | **0.502** |

Notes: highest best and worst frequencies are displayed in **bold**. Hurt1: my teeth do not hurt me at all; Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy1: my teeth do not annoy me at all; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake1: my teeth do not keep me awake at all; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat1: my teeth do not make it hard to eat some foods; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry1: my teeth do not make me cry at all; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot

**Table S9: Regression results when using the reduced sample approach to explore heterogeneity in the BWS data relating to age**

| Variables | Standard model | 11-year-olds | 12-year-olds | 13-year-olds | 14-year-olds | 15-year-olds | 16-year-olds |
|---|---|---|---|---|---|---|---|
| **Hurt1** | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - |
| **Hurt2** | 2.235*** | 2.434*** | 2.291*** | 2.084*** | 2.179*** | 2.508*** | 2.311*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Hurt3** | 3.406*** | 3.418*** | 4.033*** | 2.905*** | -3.476*** | -3.721*** | -3.656*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Annoy1** | -0.959*** | -1.056*** | -1.079*** | -0.815*** | -0.745*** | -1.192*** | -1.262*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Annoy2** | -1.989*** | -2.107*** | -2.030*** | -1.627*** | -1.963*** | -2.335*** | -2.336*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Annoy3** | -2.720*** | -2.730*** | -2.720*** | -2.216*** | -3.139*** | -3.077*** | -3.365*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Awake1** | -0.866*** | -0.845*** | -0.949*** | -0.612*** | -0.697*** | -1.346*** | -1.060*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Awake2** | -2.322*** | -2.521*** | -2.566*** | -1.977*** | -2.099*** | -2.654*** | -2.759*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Awake3** | -2.827*** | -3.592*** | -2.940*** | -2.154*** | -3.000*** | -2.766*** | -4.283*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Eat1** | -0.949*** | -1.171*** | -0.787*** | -0.742*** | -0.896*** | -1.248*** | -1.261*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Eat2** | -1.874*** | -1.945*** | -2.012*** | -1.565*** | -1.774*** | -2.206*** | -2.203*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Eat3** | -2.543*** | -2.642*** | -2.828*** | -2.148*** | -2.371*** | -2.846*** | -3.336*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Cry1** | -0.266*** | -0.226 | -0.128 | -0.350*** | -0.064 | -0.547*** | -0.421*** |
| | (0.000) | (0.106) | (0.338) | (0.001) | (0.602) | (0.000) | (0.005) |
| **Cry2** | -2.039*** | -2.186*** | -2.194*** | -1.740*** | -2.017*** | -2.293*** | -2.150*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Cry3** | -3.097*** | -2.900*** | -3.698*** | -2.814*** | -3.200*** | -3.192*** | -3.705*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Observations** | 56,870 | 8,480 | 9,920 | 12,160 | 10,080 | 9,840 | 7,200 |
| **Log likelihood** | -14362 | -2104 | -2381 | -3343 | -2493 | -2471 | -1735 |
| **Rho-squared** | 0.215 | 0.235 | 0.259 | 0.158 | 0.236 | 0.224 | 0.263 |

Notes: p-values are in parentheses, where *** p<0.01, ** p<0.05, * p<0.1. Hurt1: my teeth do not hurt me at all; Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy1: my teeth do not annoy me at all; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake1: my teeth do not keep me awake at all; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat1: my teeth do not make it hard to eat some foods; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry1: my teeth do not make me cry at all; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot

**Table S10: Regression results when using the reduced sample approach to explore heterogeneity in the BWS data relating to participant gender, self-reported general and dental health, and previous caries experience**

| Variables | Standard model | Male gender | Bad or very bad general health | Current dental problems | Previous caries experience |
|---|---|---|---|---|---|
| **Hurt1** | - | - | - | - | - |
| | - | - | - | - | - |
| **Hurt2** | -2.235*** | -2.272*** | -3.105*** | -1.594*** | -1.921*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Hurt3** | -3.406*** | -3.434*** | -4.914*** | -2.592*** | -3.199*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Annoy1** | -0.959*** | -0.937*** | -1.580*** | -0.552*** | -0.733*** |
| | (0.000) | (0.000) | (0.002) | (0.000) | (0.000) |
| **Annoy2** | -1.989*** | -1.958*** | -3.529*** | -1.063*** | -1.637*** |
| | (0.000) | (0.000) | (0.005) | (0.000) | (0.000) |
| **Annoy3** | -2.720*** | -2.632*** | -4.028** | -1.670*** | -2.215*** |
| | (0.000) | (0.000) | (0.010) | (0.000) | (0.000) |
| **Awake1** | -0.866*** | -0.830*** | -1.452** | -0.460*** | -0.704*** |
| | (0.000) | (0.000) | (0.012) | (0.000) | (0.000) |
| **Awake2** | -2.322*** | -2.263*** | -3.439*** | -1.395*** | -1.892*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Awake3** | -2.827*** | -2.584*** | -19.060*** | -1.773*** | -2.293*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Eat1** | -0.949*** | -0.937*** | -1.359* | -0.430*** | -0.751*** |
| | (0.000) | (0.000) | (0.076) | (0.000) | (0.000) |
| **Eat2** | -1.874*** | -1.790*** | -2.100** | -1.148*** | -1.534*** |
| | (0.000) | (0.000) | (0.012) | (0.000) | (0.000) |
| **Eat3** | -2.543*** | -2.360*** | -3.488*** | -1.678*** | -2.155*** |
| | (0.000) | (0.000) | (0.003) | (0.000) | (0.000) |
| **Cry1** | -0.266*** | -0.302*** | -0.671 | -0.075 | -0.216*** |
| | (0.000) | (0.000) | (0.159) | (0.390) | (0.006) |
| **Cry2** | -2.039*** | -2.016*** | -2.549*** | -1.535*** | -1.841*** |
| | (0.000) | (0.000) | (0.001) | (0.000) | (0.000) |
| **Cry3** | -3.097*** | -2.988*** | -4.593*** | -2.312*** | -2.857*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |

| | | | | | |
|---|---|---|---|---|---|
| **Observations** | 56,870 | 30,960 | 720 | 21,840 | 28,000 |
| **Log likelihood** | -14362 | -8019 | -145.8 | -6277 | -7535 |
| **Rho-squared** | 0.215 | 0.201 | 0.371 | 0.120 | 0.171 |

Notes: p-values are in parentheses, where *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Hurt1: my teeth do not hurt me at all; Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy1: my teeth do not annoy me at all; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake1: my teeth do not keep me awake at all; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat1: my teeth do not make it hard to eat some foods; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry1: my teeth do not make me cry at all; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot

**Table S11: The impact of sociodemographic and health-related interaction terms in the DCE$_{TTO}$ survey results**

| | Male participants | Self-reported current dental problems | Previous caries experience | Employed participants | Married participants | Participants with bad or very bad general health | Participants aged 65 and over | Participants aged 18-24 |
|---|---|---|---|---|---|---|---|---|
| **Hurt2_LY** | | + | | | + | - | | |
| **Hurt3_LY** | + | + | | | + | - | - | |
| **Annoy2_LY** | | + | | | | | | |
| **Annoy3_LY** | | + | | | | | - | |
| **Awake2_LY** | | | | | | | | |
| **Awake3_LY** | + | + | | | | | | |
| **Eat2_LY** | | + | | | | | | |
| **Eat3_LY** | | + | | + | | | | - |
| **Cry2_LY** | | + | | | | | - | |
| **Cry3_LY** | | + | | + | | | - | |

Notes: + a positive, statistically significant (p≤0.05) coefficient  – a negative, statistically significant (p≤0.05) coefficient. An underscore (_) represents an interaction between variables i.e. Hurt2_LY is Hurt2 multiplied by LY. Hurt2: my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot; LY: duration

**Table S12: Regression results exploring the BWS model robustness to exclusion of adolescent participants who failed the dominance test, difficulty understanding or difficulty of choice**

| Variables | Standard model | Robustness 1 Excluding participants that failed the dominance test[†] first time | Robustness 2 Excluding participants that found it difficult to understand the tasks | Robustness 3 Excluding participants that failed the dominance test[†] and found it difficult to understand the tasks | Robustness 4 Excluding participants that found it difficult to choose an answer | Robustness 5 Excluding participants that failed the dominance test[†] and found it difficult to choose an answer |
|---|---|---|---|---|---|---|
| **Hurt1** | - | - | - | - | - | - |
| | - | - | - | - | - | - |
| **Hurt2** | -2.235*** | -3.322*** | -2.361*** | -3.383*** | -2.389*** | -3.411*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Hurt3** | -3.406*** | -4.918*** | -3.614*** | -5.132*** | -3.641*** | -5.178*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Annoy1** | -0.959*** | -1.569*** | -1.018*** | -1.569*** | -1.036*** | -1.583*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Annoy2** | -1.989*** | -3.418*** | -2.146*** | -3.482*** | -2.172*** | -3.500*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Annoy3** | -2.720*** | -4.619*** | -2.922*** | -4.643*** | -2.968*** | -4.696*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Awake1** | -0.866*** | -1.517*** | -0.929*** | -1.513*** | -0.947*** | -1.532*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Awake2** | -2.322*** | -3.938*** | -2.508*** | -3.992*** | -2.544*** | -4.018*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Awake3** | -2.827*** | -5.519*** | -3.055*** | -5.606*** | -3.085*** | -5.683*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Eat1** | -0.949*** | -1.729*** | -1.027*** | -1.757*** | -1.063*** | -1.802*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Eat2** | -1.874*** | -3.167*** | -2.016*** | -3.255*** | -2.037*** | -3.276*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Eat3** | -2.543*** | -4.713*** | -2.731*** | -4.762*** | -2.767*** | -4.785*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Cry1** | -0.266*** | -0.577*** | -0.292*** | -0.573*** | -0.285*** | -0.576*** |

|  | | | | | | |
|---|---|---|---|---|---|---|
|  | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Cry2** | -2.039*** | -3.019*** | -2.122*** | -3.045*** | -2.136*** | -3.065*** |
|  | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| **Cry3** | -3.097*** | -4.965*** | -3.306*** | -5.046*** | -3.345*** | -5.114*** |
|  | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
|  | | | | | | |
| **Observations** | 56,870 | 31,120 | 53,760 | 29,920 | 52,400 | 29,520 |
| **Log likelihood** | -14362 | -5857 | -13374 | -5546 | -12942 | -5431 |
| **Rho-squared** | 0.215 | 0.415 | 0.235 | 0.424 | 0.239 | 0.428 |

Notes: Robust p-values are in parentheses, where *** p<0.01, ** p<0.05, * p<0.1 [†]Dominance test was failed if participant was unable to identify the correct 'best' and 'worst' attributes. Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot.

**Table S13: Regression results exploring the BWS model robustness to exclusion of adolescent participants who completed the survey very quickly or very slowly**

| Variables | Standard model | Robustness 6 Excluding participants that completed the survey in < 3 mins | Robustness 7 Excluding participants that completed the survey in > 30 mins |
|---|---|---|---|
| Hurt1 | - | - | - |
|  | - | - | - |
| Hurt2 | -2.235*** | -2.263*** | -2.234*** |
|  | (0.000) | (0.000) | (0.000) |
| Hurt3 | -3.406*** | -3.495*** | -3.439*** |
|  | (0.000) | (0.000) | (0.000) |
| Annoy1 | -0.959*** | -0.976*** | -0.967*** |
|  | (0.000) | (0.000) | (0.000) |
| Annoy2 | -1.989*** | -2.023*** | -1.999*** |
|  | (0.000) | (0.000) | (0.000) |
| Annoy3 | -2.720*** | -2.773*** | -2.785*** |
|  | (0.000) | (0.000) | (0.000) |
| Awake1 | -0.866*** | -0.878*** | -0.865*** |
|  | (0.000) | (0.000) | (0.000) |
| Awake2 | -2.322*** | -2.356*** | -2.357*** |
|  | (0.000) | (0.000) | (0.000) |
| Awake3 | -2.827*** | -2.896*** | -2.868*** |
|  | (0.000) | (0.000) | (0.000) |
| Eat1 | -0.949*** | -0.966*** | -0.962*** |
|  | (0.000) | (0.000) | (0.000) |
| Eat2 | -1.874*** | -1.903*** | -1.904*** |
|  | (0.000) | (0.000) | (0.000) |
| Eat3 | -2.543*** | -2.587*** | -2.578*** |
|  | (0.000) | (0.000) | (0.000) |
| Cry1 | -0.266*** | -0.270*** | -0.289*** |
|  | (0.000) | (0.000) | (0.000) |

| | | | |
|---|---|---|---|
| **Cry2** | -2.039*** | -2.064*** | -2.064*** |
| | (0.000) | (0.000) | (0.000) |
| **Cry3** | -3.097*** | -3.174*** | -3.121*** |
| | (0.000) | (0.000) | (0.000) |
| | | | |
| **Observations** | 56,870 | 56,230 | 54,400 |
| **Log likelihood** | -14362 | -14080 | -13678 |
| **Rho-squared** | 0.215 | 0.222 | 0.219 |

Notes: p-values are in parentheses, where *** p<0.01, ** p<0.05, * p<0.1. Hurt1: my teeth do not hurt me at all; Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy1: my teeth do not annoy me at all; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake1: my teeth do not keep me awake at all; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat1: my teeth do not make it hard to eat some foods; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry1: my teeth do not make me cry at all; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot

**Table S14: Regression results exploring model robustness to exclusion of adult participants who failed the dominance test or had difficulty understanding the DCE$_{TTO}$ tasks**

| Variables | Standard model | Standard model anchored | Robustness 1 | Robustness 1 anchored | Robustness 2 | Robustness 2 anchored | Robustness 3 | Robustness 3 anchored |
|---|---|---|---|---|---|---|---|---|
| | | | Excluding participants that failed the dominance test | | Excluding participants that found it difficult to understand the tasks | | Excluding participants that failed the dominance test and found it difficult to understand the tasks | |
| Hurt2_LY | -0.373*** | -.1728429 | -0.425*** | -.1742738 | -0.389*** | -.1729981 | -0.398*** | -.1733476 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Hurt3_LY | -1.217*** | -.5635363 | -1.354*** | -.5548113 | -1.283*** | -.5708403 | -1.315*** | -.5722786 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Annoy2_LY | 0.009 | .004016 | -0.034 | -.0137991 | -0.032 | -.014017 | -0.031 | -.0135733 |
| | (0.820) | (0.821) | (0.414) | (0.409) | (0.460) | (0.455) | (0.472) | (0.468) |
| Annoy3_LY | -0.262*** | -.1212449 | -0.313*** | -.1280649 | -0.289*** | -.1287591 | -0.302*** | -.1312883 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Awake2_LY | -0.209*** | -.0967463 | -0.234*** | -.0959131 | -0.214*** | -.0952338 | -0.216*** | -.0938763 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Awake3_LY | -0.634*** | -.2933218 | -0.723*** | -.2960955 | -0.682*** | -.3034562 | -0.694*** | -.3022111 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Eat2_LY | -0.126*** | -.0582052 | -0.149*** | -.0609352 | -0.136*** | -.060538 | -0.138*** | -.0599877 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.001) | (0.000) | (0.001) | (0.000) |
| Eat3_LY | -0.354*** | -.1636369 | -0.396*** | -.1624236 | -0.353*** | -.1568854 | -0.357*** | -.1553178 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Cry2_LY | -0.215*** | -.0994839 | -0.235*** | -.0962163 | -0.209*** | -.0930287 | -0.220*** | -.0956501 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Cry3_LY | -0.565*** | -.2615666 | -0.618*** | -.2532607 | -0.580*** | -.2580093 | -0.584*** | -.2543272 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| LY | 2.160*** | - | 2.440*** | - | 2.248*** | | 2.298*** | |
| | (0.000) | - | (0.000) | - | (0.000) | | (0.000) | |

| | | | | |
|---|---|---|---|---|
| **Observations** | 13,086 | 12,240 | 10,890 | 10,710 |
| **Log likelihood** | -3468 | -3118 | -2830 | -2760 |
| **Rho-squared** | 0.235 | 0.265 | 0.250 | 0.256 |

Notes: p-values are in parentheses, where *** p<0.01, ** p<0.05, * p<0.1. An underscore (_) represents an interaction between variables i.e. Hurt2_LY is Hurt2 multiplied by LY. Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot; LY: duration

**Table S15: Unanchored and anchored regression results exploring model robustness to exclusion of adult participants that had difficulty choosing a response to the DCE$_{TTO}$ tasks**

| Variables | Standard model | Standard model anchored | Robustness 4 | Robustness 4 anchored | Robustness 5 | Robustness 5 Anchored |
|---|---|---|---|---|---|---|
| | | | Excluding participants that found it difficult to choose a response | | Excluding participants that found it difficult to choose a response and failed the dominance test | |
| Hurt2_LY | -0.373*** | -.1728429 | -0.390*** | -.1762983 | -0.393*** | -.1761347 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Hurt3_LY | -1.217*** | -.5635363 | -1.275*** | -.5755977 | -1.278*** | -.572701 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Annoy2_LY | 0.009 | .004016 | -0.003 | -.0012436 | -0.008 | -.003385 |
| | (0.820) | (0.821) | (0.945) | (0.945) | (0.851) | (0.851) |
| Annoy3_LY | -0.262*** | -.1212449 | -0.285*** | -.1288312 | -0.291*** | -.1304021 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Awake2_LY | -0.209*** | -.0967463 | -0.205*** | -.092646 | -0.203*** | -.0908825 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Awake3_LY | -0.634*** | -.2933218 | -0.672*** | -.303432 | -0.674*** | -.3020873 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Eat2_LY | -0.126*** | -.0582052 | -0.132*** | -.0594476 | -0.130*** | -.0581255 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.001) | (0.000) |
| Eat3_LY | -0.354*** | -.1636369 | -0.363*** | -.1638541 | -0.363*** | -.1627197 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Cry2_LY | -0.215*** | -.0994839 | -0.222*** | -.1003128 | -0.227*** | -.1018175 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Cry3_LY | -0.565*** | -.2615666 | -0.598*** | -.2700924 | -0.599*** | -.2683327 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| LY | 2.160*** | - | 2.214*** | | 2.232*** | |
| | (0.000) | - | (0.000) | | (0.000) | |
| | | | | | | |
| Observations | 13,086 | | 12,348 | | 12,222 | |

| | | | | | |
|---|---|---|---|---|---|
| **Log likelihood** | -3468 | | -3218 | | -3180 |
| **Rho-squared** | 0.235 | | 0.248 | | 0.249 |

Notes: p-values are in parentheses, where \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.   An underscore (\_) represents an interaction between variables i.e. Hurt2\_LY is Hurt2 multiplied by LY. Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot; Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot; LY: duration

**Table S16: Unanchored and anchored regression results exploring model robustness to exclusion of adult participants that completed the DCE<sub>TTO</sub> survey very quickly or very slowly**

| Variables | Standard model | Standard model anchored | Robustness 6 | Robustness 6 anchored | Robustness 7 | Robustness 7 anchored |
|---|---|---|---|---|---|---|
| | | | Excluding participants that completed the survey in < 3 mins | | Excluding participants that completed the survey in > 30 mins | |
| Hurt2_LY | -0.373*** | -.1728429 | -0.400*** | -.1793527 | -0.379*** | -.175584 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Hurt3_LY | -1.217*** | -.5635363 | -1.266*** | -.5679314 | -1.228*** | -.5683242 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Annoy2_LY | 0.009 | .004016 | 0.010 | .0043796 | 0.010 | .004768 |
| | (0.820) | (0.821) | (0.803) | (0.803) | (0.791) | (0.792) |
| Annoy3_LY | -0.262*** | -.1212449 | -0.270*** | -.1210805 | -0.262*** | -.1213109 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Awake2_LY | -0.209*** | -.0967463 | -0.210*** | -.0940191 | -0.205*** | -.09466 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Awake3_LY | -0.634*** | -.2933218 | -0.657*** | -.2946578 | -0.639*** | -.2957129 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Eat2_LY | -0.126*** | -.0582052 | -0.124*** | -.055495 | -0.130*** | -.060248 |
| | (0.000) | (0.000) | (0.001) | (0.000) | (0.000) | (0.000) |
| Eat3_LY | -0.354*** | -.1636369 | -0.358*** | -.1603906 | -0.356*** | -.164553 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Cry2_LY | -0.215*** | -.0994839 | -0.217*** | -.0972072 | -0.216*** | -.1001281 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Cry3_LY | -0.565*** | -.2615666 | -0.590*** | -.2645564 | -0.566*** | -.2621079 |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| | 2.160*** | - | 2.229*** | - | 2.161*** | - |
| LY | (0.000) | - | (0.000) | - | (0.000) | - |
| | | | | | | |
| Observations | 13,086 | | 12,798 | | 12,618 | |
| Log likelihood | -3468 | | -3346 | | -3342 | |
| Rho-squared | 0.235 | | 0.246 | | 0.236 | |

Notes: p-values are in parentheses, where *** p<0.01, ** p<0.05, * p<0.1. An underscore (_) represents an interaction between variables i.e. Hurt2_LY is Hurt2 multiplied by LY. Hurt2:my teeth hurt me a bit; Hurt3: my teeth hurt me a lot; Annoy2: my teeth annoy me a bit; Annoy3: my teeth annoy me a lot;

Awake2: my teeth keep me awake a bit; Awake3: my teeth keep me awake a lot; Eat2: my teeth make it a bit hard to eat some foods; Eat3: my teeth make it really hard to eat some foods; Cry2: my teeth make me cry a bit; Cry3: my teeth make me cry a lot; LY: duration

**Table S17: Adult and adolescent derived utilities for each health state defined by the CARIES-QC-U classification system**

| Health state | Adult value set | Adolescent value set | Health state | Adult value set | Adolescent value set |
|---|---|---|---|---|---|
| 11111 | 1.000 | 1.015 | 22223 | 0.412 | 0.453 |
| 11112 | 1.000 | 0.937 | 22231 | 0.411 | 0.270 |
| 11113 | 0.942 | 0.946 | 22232 | 0.411 | 0.133 |
| 11121 | 0.942 | 0.861 | 22233 | 0.403 | 0.369 |
| 11122 | 0.903 | 0.903 | 22311 | 0.403 | 0.238 |
| 11123 | 0.903 | 0.814 | 22312 | 0.388 | 0.481 |
| 11131 | 0.901 | 0.876 | 22313 | 0.388 | 0.358 |
| 11132 | 0.901 | 0.785 | 22321 | 0.385 | 0.230 |
| 11133 | 0.877 | 0.877 | 22322 | 0.380 | 0.634 |
| 11211 | 0.845 | 0.823 | 22323 | 0.380 | 0.522 |
| 11212 | 0.845 | 0.727 | 22331 | 0.377 | 0.340 |
| 11213 | 0.843 | 0.795 | 22332 | 0.377 | 0.207 |
| 11221 | 0.843 | 0.696 | 22333 | 0.371 | 0.473 |
| 11222 | 0.836 | 0.891 | 23111 | 0.371 | 0.349 |
| 11223 | 0.836 | 0.801 | 23112 | 0.356 | 0.244 |
| 11231 | 0.827 | 0.836 | 23113 | 0.353 | 0.341 |
| 11232 | 0.827 | 0.741 | 23121 | 0.347 | 0.159 |
| 11233 | 0.819 | 0.796 | 23122 | 0.345 | 0.085 |
| 11311 | 0.804 | 0.745 | 23123 | 0.341 | 0.577 |
| 11312 | 0.804 | 0.642 | 23131 | 0.341 | 0.461 |
| 11313 | 0.780 | 0.746 | 23132 | 0.339 | 0.542 |
| 11321 | 0.778 | 0.715 | 23133 | 0.339 | 0.424 |
| 11322 | 0.769 | 0.751 | 23211 | 0.323 | 0.382 |
| 11323 | 0.769 | 0.649 | 23212 | 0.321 | 0.315 |
| 11331 | 0.746 | 0.652 | 23213 | 0.315 | 0.544 |
| 11332 | 0.746 | 0.542 | 23221 | 0.312 | 0.233 |
| 11333 | 0.739 | 0.762 | 23222 | 0.306 | 0.182 |

| | | | | | |
|---|---|---|---|---|---|
| 12111 | 0.739 | 0.660 | 23223 | 0.306 | 0.039 |
| 12112 | 0.739 | 0.782 | 23231 | 0.288 | 0.030 |
| 12113 | 0.739 | 0.682 | 23232 | 0.283 | 0.473 |
| 12121 | 0.737 | 0.731 | 23233 | 0.283 | 0.350 |
| 12122 | 0.737 | 0.627 | 23311 | 0.283 | 0.402 |
| 12123 | 0.730 | 0.699 | 23312 | 0.283 | 0.274 |
| 12131 | 0.730 | 0.593 | 23313 | 0.281 | 0.436 |
| 12132 | 0.728 | 0.667 | 23321 | 0.281 | 0.310 |
| 12133 | 0.728 | 0.558 | 23322 | 0.280 | 0.140 |
| 12211 | 0.722 | 0.654 | 23323 | 0.274 | 0.562 |
| 12212 | 0.720 | 0.621 | 23331 | 0.274 | 0.445 |
| 12213 | 0.713 | 0.733 | 23332 | 0.274 | 0.323 |
| 12221 | 0.707 | 0.860 | 23333 | 0.274 | 0.190 |
| 12222 | 0.707 | 0.767 | 31111 | 0.272 | 0.255 |
| 12223 | 0.704 | 0.669 | 31112 | 0.272 | 0.117 |
| 12231 | 0.681 | 0.563 | 31113 | 0.265 | 0.266 |
| 12232 | 0.681 | 0.693 | 31121 | 0.257 | 0.437 |
| 12233 | 0.681 | 0.586 | 31122 | 0.254 | 0.108 |
| 12311 | 0.672 | 0.604 | 31123 | 0.248 | 0.256 |
| 12312 | 0.672 | 0.490 | 31131 | 0.242 | 0.372 |
| 12313 | 0.670 | 0.570 | 31132 | 0.242 | 0.241 |
| 12321 | 0.670 | 0.453 | 31133 | 0.218 | 0.373 |
| 12322 | 0.664 | 0.686 | 31211 | 0.216 | 0.334 |
| 12323 | 0.664 | 0.578 | 31212 | 0.215 | 0.204 |
| 12331 | 0.649 | 0.777 | 31213 | 0.215 | 0.062 |
| 12332 | 0.649 | 0.677 | 31221 | 0.184 | 0.255 |
| 12333 | 0.646 | 0.571 | 31222 | 0.184 | 0.117 |
| 13111 | 0.642 | 0.639 | 31223 | 0.183 | -0.067 |
| 13112 | 0.642 | 0.527 | 31231 | 0.178 | 0.394 |
| 13113 | 0.640 | 0.582 | 31232 | 0.178 | 0.265 |
| 13121 | 0.640 | 0.466 | 31233 | 0.177 | 0.420 |

| | | | | | |
|---|---|---|---|---|---|
| 13122 | 0.631 | 0.510 | 31311 | 0.177 | 0.293 |
| 13123 | 0.631 | 0.389 | 31312 | 0.175 | 0.355 |
| 13131 | 0.623 | 0.458 | 31313 | 0.175 | 0.223 |
| 13132 | 0.616 | 0.583 | 31321 | 0.160 | 0.257 |
| 13133 | 0.616 | 0.606 | 31322 | 0.160 | 0.177 |
| 13211 | 0.614 | 0.548 | 31323 | 0.158 | 0.215 |
| 13212 | 0.608 | 0.695 | 31331 | 0.151 | 0.356 |
| 13213 | 0.608 | 0.588 | 31332 | 0.151 | 0.090 |
| 13221 | 0.607 | 0.512 | 31333 | 0.149 | 0.014 |
| 13222 | 0.605 | 0.475 | 32111 | 0.145 | 0.521 |
| 13223 | 0.584 | 0.696 | 32112 | 0.145 | 0.401 |
| 13231 | 0.584 | 0.539 | 32113 | 0.119 | 0.144 |
| 13232 | 0.584 | 0.420 | 32121 | 0.119 | 0.306 |
| 13233 | 0.575 | 0.624 | 32122 | 0.119 | 0.171 |
| 13311 | 0.575 | 0.511 | 32123 | 0.110 | 0.113 |
| 13312 | 0.573 | 0.402 | 32131 | 0.110 | -0.034 |
| 13313 | 0.573 | 0.273 | 32132 | 0.092 | -0.043 |
| 13321 | 0.567 | 0.531 | 32133 | 0.087 | 0.414 |
| 13322 | 0.567 | 0.411 | 32211 | 0.087 | 0.286 |
| 13323 | 0.566 | 0.555 | 32212 | 0.080 | 0.238 |
| 13331 | 0.566 | 0.437 | 32213 | 0.080 | 0.099 |
| 13332 | 0.564 | 0.495 | 32221 | 0.078 | 0.166 |
| 13333 | 0.564 | 0.372 | 32222 | 0.078 | 0.023 |
| 21111 | 0.558 | 0.504 | 32223 | 0.061 | 0.014 |
| 21112 | 0.550 | 0.599 | 32231 | 0.055 | 0.168 |
| 21113 | 0.550 | 0.485 | 32232 | 0.054 | 0.197 |
| 21121 | 0.549 | 0.403 | 32233 | 0.052 | 0.125 |
| 21122 | 0.547 | 0.365 | 32311 | 0.046 | 0.309 |
| 21123 | 0.544 | 0.713 | 32312 | 0.046 | 0.174 |
| 21131 | 0.544 | 0.607 | 32313 | 0.022 | 0.311 |
| 21132 | 0.541 | 0.496 | 32321 | 0.022 | 0.113 |

| | | | | | |
|---|---|---|---|---|---|
| 21133 | 0.535 | 0.648 | 32322 | 0.022 | -0.033 |
| 21211 | 0.535 | 0.537 | 32323 | 0.014 | 0.220 |
| 21212 | 0.526 | 0.601 | 32331 | 0.014 | 0.079 |
| 21213 | 0.519 | 0.443 | 32332 | -0.004 | 0.071 |
| 21221 | 0.517 | 0.378 | 32333 | -0.012 | 0.189 |
| 21222 | 0.508 | 0.298 | 33111 | -0.012 | 0.046 |
| 21223 | 0.508 | 0.449 | 33112 | -0.013 | -0.143 |
| 21231 | 0.508 | 0.324 | 33113 | -0.018 | 0.332 |
| 21232 | 0.485 | 0.507 | 33121 | -0.018 | 0.198 |
| 21233 | 0.478 | 0.462 | 33122 | -0.036 | 0.190 |
| 21311 | 0.478 | 0.338 | 33123 | -0.043 | -0.005 |
| 21312 | 0.476 | 0.549 | 33131 | -0.045 | -0.084 |
| 21313 | 0.476 | 0.430 | 33132 | -0.077 | 0.074 |
| 21321 | 0.470 | 0.386 | 33133 | -0.083 | 0.019 |
| 21322 | 0.470 | 0.256 | 33211 | -0.083 | -0.133 |
| 21323 | 0.467 | 0.319 | 33212 | -0.101 | -0.142 |
| 21331 | 0.467 | 0.185 | 33213 | -0.109 | -0.025 |
| 21332 | 0.461 | 0.330 | 33221 | -0.115 | 0.171 |
| 21333 | 0.452 | 0.426 | 33222 | -0.115 | 0.028 |
| 22111 | 0.450 | 0.177 | 33223 | -0.118 | 0.097 |
| 22112 | 0.446 | 0.585 | 33231 | -0.118 | -0.050 |
| 22113 | 0.446 | 0.469 | 33232 | -0.135 | -0.059 |
| 22121 | 0.444 | 0.526 | 33233 | -0.141 | 0.099 |
| 22122 | 0.444 | 0.406 | 33311 | -0.174 | 0.042 |
| 22123 | 0.444 | 0.321 | 33312 | -0.174 | -0.108 |
| 22131 | 0.443 | 0.348 | 33313 | -0.206 | -0.246 |
| 22132 | 0.441 | 0.281 | 33321 | -0.238 | -0.079 |
| 22133 | 0.438 | 0.728 | 33322 | -0.240 | -0.160 |
| 22211 | 0.438 | 0.623 | 33323 | -0.279 | -0.054 |
| 22212 | 0.435 | 0.452 | 33331 | -0.279 | -0.210 |
| 22213 | 0.435 | 0.327 | 33332 | -0.297 | -0.220 |

| | | | | | |
|---|---|---|---|---|---|
| 22221 | 0.427 | 0.398 | 33333 | -0.402 | -0.326 |
| 22222 | 0.421 | 0.527 | | | |

Notes: * The utility for this health state was predicted to be above 1, so has been capped at 1.