**Appendix 1Table 1.**

**Descriptive Statistics of Parent and Child Variables and Bivariate Comparisons with the COHSI**

Note: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | |  | | **Child Survey** | | | | | **Parent Survey** | | | |
| **Questions** | | **Domain** | | **Mean (STD)** | | **N** | **%** | **Mean of Index (STD)** | **p-value** | **N** | **%** | **Mean of Index (STD)** | **p-value** |
| **Child's Oral Health Status Index** | |  | | 88.97 (8.8) | | 334 | 100.0% |  |  |  |  |  |  |
| **Child’s Age 8-17 years** | | Demo | | 12.08 (2.8) | |  |  |  | <.001\*\* |  |  |  |  |
| 13-17 | |  | |  | | 141 | 42.2% | 90.84 (8.9) |  |  |  |
| 8-12 | |  | |  | | 193 | 57.8% | 87.6 (8.4) |  |  |  |
| **Gender** | | Demo | |  | |  |  |  | 0.46 |  |  |  | 0.01\* |
| 0 = Male | |  | |  | | 174 | 52.1% | 88.5 (9.0) | 97 | 29.0% | 87.12 (9.2) |
| 1 = Female | |  | |  | | 160 | 47.9% | 89.5 (8.5) | 237 | 71.0% | 89.73 (8.5) |
| **I would speak English at home.** | | Demo | |  | |  |  |  | 0.01\* |  |  |  | 0.07 |
| 0 = Yes | |  | |  | | 304 | 91.0% | 89.38 (8.7) | 282 | 84.4% | 89.34 (8.8) |
| 1 = No | |  | |  | | 30 | 9.0% | 84.8 (8.3) | 52 | 15.6% | 86.96 (8.4) |
| **Single-parent Family.** | | Demo | |  | |  |  |  |  |  |  |  | 0.06 |
| 0 = No | |  | |  | |  |  |  | 253 | 75.7% | 89.46 (8.6) |
| 1 = Yes | |  | |  | |  |  |  | 81 | 24.3% | 87.42 (9.2) |
| **Family Employment Status** | | Demo | |  | |  |  |  |  |  |  |  |  |
| Full Time (Reference) | |  | |  | |  |  |  |  | 261 | 78.1% | 89.40 (8.5) |  |
| Part Time (1 = Yes; 0 = No) | |  | |  | |  |  |  |  | 33 | 9.9% | 87.33 (9.8) | 0.26 |
| Not Working (1 = Yes; 0 = No) | |  | |  | |  |  |  |  | 40 | 12.0% | 87.52 (9.4) | 0.27 |
| **Were you born in the United States?** | | Demo | |  | |  |  |  |  |  |  |  | 0.06 |
| 0 = Yes | |  | |  | |  |  |  | 183 | 54.8% | 89.78 (9.0) |
| 1 = No | |  | |  | |  |  |  | 151 | 45.2% | 87.98 (8.4) |
| **My/ My child's teeth are straight.** | | Phys | |  | |  |  |  | <.0001\*\*\* |  |  |  | <.0001\*\*\* |
| 0 = Yes | |  | |  | | 226 | 67.7% | 90.83 (8.2) | 195 | 58.4% | 91.7 (7.6) |
| 1 = No | |  | |  | | 108 | 32.3% | 85.06 (8.7) | 139 | 41.6% | 85.1 (8.8) |
| **My/ My child's teeth have problem like crooked, crowded, or space.** | | Phys | |  | |  |  |  | <.0001\*\*\* |  |  |  | <.0001\*\*\* |
| 0 = No | |  | |  | | 195 | 58.4% | 91.1 (8.4) | 166 | 49.7% | 92.25 (7) |
| 1 = Yes | |  | |  | | 139 | 41.6% | 86.0 (8.5) | 168 | 50.3% | 85.73 (9.1) |
| **In the last 4 weeks, how much of the time did you/ your child have pain or discomfort?** | | Phys | |  | |  |  |  | 0.07 |  |  |  | 0.15 |
| 0 = Never | |  | |  | | 214 | 64.1% | 89.43 (9.1) | 247 | 74.0% | 89.34 (8.9) |
| 1 = Almost Never | |  | |  | | 68 | 20.4% | 89.39 (8.0) | 48 | 14.4% | 88.59 (8.4) |
| 2 = Sometimes | |  | |  | | 34 | 10.2% | 86.55 (7.4) | 33 | 9.9% | 86.74 (8.5) |
| 3 = Often | |  | |  | | 10 | 3.0% | 86.66 (11.8) | 3 | 0.9% | 93.9 (3.1) |
| 4 = Almost Always | |  | |  | | 3 | 0.9% | 80.97 (9.1) | 3 | 0.9% | 83.9 (11.0) |
| 5 = Always | |  | |  | | 5 | 1.5% | 89.32 (5.8) | 0 | 0.0% |  |
| **When I look at my / my child’s teeth,** | | Phys | |  | |  |  |  | <.0001\*\*\* |  |  |  | <.0001\*\*\* |
| 0 = They look fine | |  | |  | | 165 | 49.4% | 90.55 (8.2) | 159 | 47.6% | 91.99 (7.6) |
| 1 = They could look a little better | |  | |  | | 156 | 46.7% | 87.73 (9.1) | 134 | 40.1% | 86.88 (8.9) |
| 2 = They could look a lot better | |  | |  | | 13 | 3.9% | 83.7 (8.7) | 41 | 12.3% | 84.07 (8.4) |
| **In the last 4 weeks, how much of the time were you pleased or happy with the look of your / your child mouth, teeth, jaws, or gums?** | | Mental | |  | |  |  |  | <.0001\*\*\* |  |  |  | <.0001\*\*\* |
| 0 = Always | |  | |  | | 114 | 34.1% | 90.66 (8.6) | 116 | 34.7% | 92.04 (7.5) |
| 1 = Almost Always | |  | |  | | 104 | 31.1% | 89.87 (8.0) | 122 | 36.5% | 88.7 (8.8) |
| 2 = Often | |  | |  | | 40 | 12.0% | 89.39 (9.3) | 45 | 13.5% | 87.24 (8.3) |
| 3 = Sometimes | |  | |  | | 48 | 14.4% | 86.04 (9.5) | 38 | 11.4% | 85.32 (8.7) |
| 4 = Almost never | |  | |  | | 16 | 4.8% | 83.03 (6.2) | 10 | 3.0% | 80.48 (11.3) |
| 5 = Never | |  | |  | | 12 | 3.6% | 83.35 (7.7) | 3 | 0.9% | 81.44 (4.5) |
| **Compared to other kids my /my child's age:** | | Mental | |  | |  |  |  | 0.04\* |  |  |  | <.0001\*\*\* |
| 0 = I/ He or she has better oral health | |  | |  | | 121 | 36.2% | 90.07 (8.1) | 159 | 47.6% | 90.83 (7.9) |
| 1 = I/ He or she has the same oral health | |  | |  | | 198 | 59.3% | 88.53 (9.2) | 162 | 48.5% | 87.78 (8.8) |
| 2 = I/ He or she has worse oral health | |  | |  | | 15 | 4.5% | 85.94 (7.3) | 13 | 3.9% | 81.01 (12.1) |
| **I/ My child was good at making friends.** | | Social | |  | |  |  |  | <0.01\*\* |  |  |  | 0.97 |
| 0 = Always | |  | |  | | 201 | 60.2% | 90.07 (8.3) | 185 | 55.4% | 89.13 (8.7) |
| 1 = Almost Always | |  | |  | | 60 | 18.0% | 88.23 (8.6) | 94 | 28.1% | 88.77 (8.7) |
| 2 = Often | |  | |  | | 33 | 9.9% | 87.37 (9.3) | 22 | 6.6% | 86.24 (10.0) |
| 3 = Sometimes | |  | |  | | 24 | 7.2% | 86.31 (8.4) | 28 | 8.4% | 90.30 (9.0) |
| 4 = Almost never | |  | |  | | 10 | 3.0% | 88.95 (6.6) | 2 | 0.6% | 99.14 (1.2) |
| 5 = Never | |  | |  | | 6 | 1.8% | 79.05 (17) | 3 | 0.9% | 85.79 (8.5) |
| **How often do your parents/ you remind you/ your child to brush your/ your child's teeth before you go to sleep?** | | Social | |  | |  |  |  | 0.08 |  |  |  | 0.01\* |
| 0 = Never | |  | |  | | 52 | 15.6% | 90.42 (8.3) | 16 | 4.8% | 94.32 (6.7) |
| 1 = Almost Never | |  | |  | | 31 | 9.3% | 91.88 (7.4) | 27 | 8.1% | 89.18 (9.4) |
| 2 = Sometimes | |  | |  | | 54 | 16.2% | 88.26 (8.5) | 49 | 14.7% | 89.69 (7.2) |
| 3 = Often | |  | |  | | 25 | 7.5% | 87.43 (9.4) | 35 | 10.5% | 90.70 (7.5) |
| 4 = Almost Always | |  | |  | | 37 | 11.1% | 88.84 (8.6) | 50 | 15.0% | 87.81 (8.2) |
| 5 = Always | |  | |  | | 135 | 40.4% | 88.34 (9.2) | 157 | 47.0% | 88.14 (9.5) |
| **Have you gone online to look for information that would help you with your child's oral health?** | | Social | |  | |  |  |  |  |  |  |  | <0.01\*\* |
| 0 = Yes | |  | |  | |  |  |  | 81 | 24.3% | 86.47 (10.9) |
| 1 = Did not find the information on-line | |  | |  | |  |  |  | 3 | 0.9% | 89.78 (7.8) |
| 2 = No | |  | |  | |  |  |  | 250 | 74.9% | 88.78 (10.0) |
| **In general, would you say you/ your child's quality of life is** | | Global | |  | |  |  |  | <.0001\*\*\* |  |  |  | 0.79 |
| 0 = Excellent | |  | |  | | 147 | 44.0% | 89.76 (8.7) | 158 | 47.3% | 89.4 (9.1) |
| 1 = Very good | |  | |  | | 106 | 31.7% | 90.13 (8.1) | 137 | 41.0% | 88.2 (8.8) |
| 2 = Good | |  | |  | | 71 | 21.3% | 87.01 (8.2) | 39 | 11.7% | 90.0 (7.2) |
| 3 = Fair | |  | |  | | 7 | 2.1% | 78.97 (12.8) | 0 | 0.0% |  |
| 4 = Poor | |  | |  | | 3 | 0.9% | 78.59 (14.6) | 0 | 0.0% |  |

**Appendix 2Table 2.**

**Multivariate Linear Regression of Parent and Child Variables by the COHSI**

Note: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Children Model (R2 = 0.21, N = 334)** | | | **Parent Model (R2 = 0.27, N = 334)** | | |
| **Variable** | **Coeff. (STD ERR)** | **P Value** | **VIF** | **Coeff. (STD ERR)** | **P Value** | **VIF** |
| **Intercept** | 93.57 (1.4) | <.0001\*\*\* | 0.00 | 90.62 (1.5) | <.0001\*\*\* | 0.00 |
| **Child’s Age 8-17 years**  (0 = 8 years old, 1 = 9 years old etc.) | 0.48 (0.2) | <0.01\*\* | 1.17 | 0.26 (0.2) | 0.10 | 1.08 |
| **Child: I would speak English at home.** (0 = Yes; 1 = No.) | -1.38 (1.6) | 0.38 | 1.10 |  |  |  |
| **Parent: Single-parent Family.**  (0 = No; 1 = Yes.) | -1.91 (1.1) | 0.09 | 1.24 | -2.41 (1.0) | 0.01\* | 1.03 |
| **Parent: Family Employment Status** |  |  |  |  |  |  |
| Full Time (Reference) |  |  |  |  |  |  |
| Part Time (1 = Yes; 0 = No) | -0.14 (1.6) | 0.93 | 1.20 |  |  |  |
| Not Working (1 = Yes; 0 = No) | -2.83 (1.5) | 0.05 | 1.21 |  |  |  |
| **Parent: Gender of Parent**  (0 = Male; 1 = Female.) |  |  |  | 2.52 (0.9) | <.01\*\* | 1.01 |
| **Parent: Were you born in the United States?**  (0 = Yes; 1 = No) |  |  |  | -2.63 (0.8) | <.01\*\* | 1.03 |
| **Child: My teeth are straight.**  (0 = Yes; 1 = No.) | -4.49 (1.0) | <.0001\*\*\* | 1.10 |  |  |  |
| **Parent: My child's teeth have problem like crooked, crowded, or space.**  (0 = No; 1 = Yes) |  |  |  | -4.00 (1.0) | <.0001\*\*\* | 1.45 |
| **Child: In the last 4 weeks, how much of the time did you have pain or discomfort?** (0 = Never; 1 = Almost Never; 2 = Sometimes; 3 = Often; 4 = Almost Always; 5 = Always) | -0.30 (0.4) | 0.49 | 1.05 |  |  |  |
| **Parent: When I look at my child’s teeth,**  (0 = They look fine, 1 = They could look a little better; 2 = They could look a lot better) |  |  |  | -1.40 (0.8) | 0.07 | 1.64 |
| **Child/ Parent: In the last 4 weeks, how much of the time were you pleased or happy with the look of your/ your child's mouth, teeth, jaws, or gums?**  (0 = Always; 1 = Almost Always; 2 = Often; 3 = Sometimes; 4 = Almost Never; 5 = Never) | -0.92 (0.4) | <.01\*\* | 1.27 | -0.96 (0.4) | 0.03\* | 1.48 |
| **Parent: Compared to other kids my child's age,** (0 = He or she has better oral health; 1 = He or she has the same oral health; 2 = He or she has worse oral health.) |  |  |  | -1.75 (0.8) | 0.03\* | 1.19 |
| **Child: I was good at making friends.**  (0 = always; 1 = Almost Always; 2 = Often; 3 = Sometimes; 4 = Almost never; 5 = Never) | -0.9 (0.4) | 0.02\* | 1.24 |  |  |  |
| **Child: How often do your parents remind you to brush your teeth before you go to sleep?**  (0 = Never; 1 = Almost Never; 2 = Sometimes; 3 = Often; 4 = Almost Always; 5 = Always) | -0.35 (0.2) | 0.15 | 1.12 |  |  |  |
| **Parent: Have you gone online to look for information that would help you with your child's oral health?** (0 = Yes; 1 = Did not find the information on-line; 2 = No.) |  |  |  | 1.51 (0.5) | <.01\*\* | 1.01 |
| **Child: In general, would you say your quality of life is** (0 = Excellent, 1 = Very good, 2 = Good, 3 = Fair, 4 = Poor) | -1.1 (0.5) | 0.05\* | 1.26 |  |  |  |

**Descriptive Statists of Model External Validation using Hybrid Bootstrap for Children’s and**

**Parent’s Models**

Note: Root MSE = square root of MSE

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | **Bootstrap sample** | | |
| **Model** | **Measure** | **Original** | **Mean** | **Min** | **Max** |
| **Child** | **Root MSE** | 7.9 | 7.7 | 6.7 | 8.6 |
| **R2** | 0.215 | 0.222 | 0.178 | 0.289 |
| **Parent** | **Root MSE** | 7.6 | 7.4 | 6.5 | 8.1 |
| **R2** | 0.273 | 0.278 | 0.213 | 0.343 |