**Supplemental materials S1.** Variable definitions

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| **Category/ variable** | **Question** | **Categories** |
| **Socioeconomic** |  |  |
| School type | Administrative dependency of the school | 1) Public; 2) Private |
| Maternal schooling | Up to what level of education (degree) does your mother study or have studied? | 1) 0 to 4 years; 2) 5 to 8 years; 3) ≥ 9 y |
| To have a cell phone | Do you have a cellphone? | 1) No; 2) Yes |
| To have a laptop | Do you have a computer or notebook at home? | 1) No; 2) Yes |
| To have internet access | Do you have internet access at your home? | 1) No; 2) Yes |
| To have a car | Does anyone who lives in your house have a car? | 1) No; 2) Yes |
| To have a motorcycle | Does anyone who lives in your house have a motorbike/motorcycle? | 1) No; 2) Yes |
| To have a housekeeper | Do you have a domestic worker receiving money to do work in your home, three or more days a week? | 1) No; 2) Yes |
| Number of residents | Counting on you, how many people live in your house or apartment? | Numeric ordinal |
| Number of bathrooms | How many complete bathrooms, with toilet and shower, do you have inside your house? | Numeric ordinal |
| Lunch offer for school | Does your school offer food/snacks to students in your class? (Do not consider food purchased from the canteen) | 1) No; 2) Yes |
| Eat Lunch offer for school | Do you usually eat the food/snacks offered by the school? (Do not consider food purchased from the canteen) | 1) No / Rarely; 2) Yes every day; Yes, 3 to 4 days a week; Yes, 1 to 2 days a week |
| School Internet | Do students have access to the internet through school equipment? | 1) No; 2) Yes |
| **Demographic** |  |  |
| Age | How old are you? | 1) 13 to 15 years; 2) 16 to 19 years |
| Sex | What is your gender? | 1) male; 2) female |
| Race | What is your color or race? | 1) White; 2) Brown; 3) Black; 4) Yellow; 5) American indigenous |
| Brazilian States | Brazilian States | 27 - states |
| Brazilian regions | Brazilian regions | 1) South; 2) Southeast; 3) Midwest; 4) Northeast; 5) North. |
| City location | Capital city | 1) Countryside; 2) Capital |
| **Dietary sweets consumption** |  |  |
| Sweets consumption | In the last 7 days, how many days did you eat sweet treats, such as candies, confectionery, chocolates, gum, chocolates, lollipops and others? | Numeric ordinal |
| Soft drink consumption | In the last 7 days, how many days did you drink soda? | Numeric ordinal |
| **Sexuality** |  |  |
| Sexual intercourse | Have you ever had sexual intercourse (had sex)? | 1) No; 2) Yes |
| Age of first sexual intercourse | How old were you when you had sex for the first time? | 1)10 years or less; 2) 10 years; 3) 11 years; 4) 12 years; 5) 13 years; 6) 14 years old; 7) 15 years; 8) 16 years or more / or never |
| Concom use | The last time you had sex, did you or your partner use a condom? | 1) No; 2) Yes |
| **Drugs use** |  |  |
| Tobacco use | Have you ever smoked a cigarette in your life? | a) No; b) Yes |
| Alcohol use | Have you ever tried alcoholic drinks in your life? | a) No; b) Yes |
| Illegal drugs use | Have you ever used any drugs in your life, such as: marijuana, cocaine, crack, glue, ecstasy, etc.? | a) No; b) Yes |
| Amount of alcohol | In the last 30 days, how many days did you drink at least one glass or dose of alcohol? (One dose is equivalent to a can of beer or a glass of wine or a dose of cachaça or whiskey, etc.) | Numeric ordinal |
| Drinking problems | In your life, how many times have you had problems with your family or friends, missed classes or gotten into fights because you had been drinking? | Numeric ordinal |
| **Oral health** |  |  |
| Dental service use | In the last 12 months, how many times have you been to the dentist? | 1) No (Not once in the last 12 months); 2) Use (1x; 2x; 3 or more) |
| Dental service use frequency \* | In the last 12 months, which health service did you seek most frequently? | 1) Other (Basic Health Unit / Private medical office or private clinic / Office of another healthcare professional / Medical specialty service or Polyclinic / Emergency room, emergency room / Hospital / Laboratory or clinic for additional tests / Home care service / Pharmacy / Other; or 2) Dental office |
| Tooth brushing | How many times a day do you brush your teeth? | 1) do not brush; 2) 1x per day; 2x per day; 3x per day; 4x or more per day |
| **General health behaviors** |  |  |
| Wash your hands before eating | How often do you wash your hands before eating? | 1) Never; 2) Rarely; 3) Sometimes; 4) Mostly 5) Ever |
| Wash your hands after using the bathroom | How often do you wash your hands after using the bathroom or toilet? | 1) Never; 2) Rarely; 3) Sometimes; 4) Mostly 5) Ever |
| Soap use for washing hands | How often do you use soap or soap when washing your hands? | 1) Never; 2) Rarely; 3) Sometimes; 4) Mostly 5) Ever |
| HPV vaccine | Have you been vaccinated against the Human Papillomavirus virus? | 1) No; 2) Yes |
| Health Self Perceived | How would you classify your health status? | 1) Very good/ Good; 2) Regular /Bad /Too bad |
| **Bullying** |  |  |
| Bullying reasons | In the last 30 days, what is the reason/cause your colleagues have teased, mocked, teased, made fun of, teased, intimidated or humiliated? | 1) My color or race; 2) My religion; 3) The appearance of my face; 4) The appearance of my body; 5) My sexual orientation; 6) My region of origin; 7) Other reasons/causes |
| Bullying | In the past 30 days, how many times has one of your schoolmates teased, teased, bullied, intimidated or made fun of you so much that you were hurt, bothered, upset, offended or humiliated? | 1) No; 2) one time / 2 or more times |
| **Violence** |  |  |
| Familiar violence | In the last 12 months, how many times were you physically attacked by your mother, father or guardian? | 1) None; 2) One or more |
| Injury | What was the most serious injury or lesion you suffered in an accident or assault? | 1) Broken bone or dislocated joint; 2) Cutting or drilling; 3) Blow or other injury to the head or neck; 4) Gunshot wound (firearm); 5) Burn; 6) Other injury or bruise |
| **Others** |  |  |
| Living with mother | Do you live with your mother? | 1) No; 2) Yes |
| Living with father | Do you live with your father? | 1) No; 2) Yes |
| School absenteeism | In the past 12 months, how many days did you miss school for reason(s) related to your health? | 1) None; 2) 1 or more |
| Misses school without permission | In the last 30 days, how many days did you miss classes or school without permission from your parents or guardians? | 1) None; 2) 1 or 2 days; 3) 3 to 5 days; 4) 6 to 9 days; 5) 10 days or more |
| Use of seat belt (front) | In the last 30 days, how often have you worn a seat belt while riding as a passenger in the front seat of a car/car? | 1) Never/ rarely/ sometimes; 2) mostly/ ever |
| Use of seat belt (back) | In the last 30 days, how often have you worn a seat belt while riding as a passenger in the back seat of a car/car? | 1) Never/ rarely/ sometimes; 2) mostly/ ever |
| Corporal self-perception | How do you feel about your body? | 1) Very satisfied/ Satisfied; 2) Indifferent/ Dissatisfied/ Very dissatisfied |
| Inclusiveness | In the past 30 days, how often have classmates at your school treated you well and/or been helpful to you? | 1) Never/ rarely/ sometimes; 2) mostly/ ever |
| Physical activity | Weekly time in minutes of accumulated physical activity | Numeric |
| Missing maternal schooling | Individuals with missing data at “Maternal schooling” variable | 1) No missing data; 2) missing data |
| Fruit/salad consumption | In the last 7 days, how many days did you eat fresh fruit or fruit salad? | Numeric ordinal |
| Fast food consumption | In the last 7 days, how many of them did you eat at cafeterias, hot dog stands, pizzerias, fast food, etc.? | Numeric ordinal |

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| **Supplementary Table 2.** Factor loading, standard error, and p-values of the indicators of latent variable (Socioeconomic Status and dental service use) and the model fit. Brazil. (n= 259,833) | | | | | | | |
| **SES** | **Standard coefficient (95%CI)** | |  | | **SE** | | **p-value** |
| School type | 1.00 (1.00 – 1.00) | |  | | 0.001 | | <0.001 |
| To have a cell phone | 0.31 (0.30 – 0.31) | |  | | 0.003 | | <0.001 |
| To have a laptop | 0.88 (0.87 – 0.89) | |  | | 0.003 | | <0.001 |
| To have internet access | 0.52 (0.51 – 0.52) | |  | | 0.003 | | <0.001 |
| To have a car | 0.96 (0.95 – 0.96) | |  | | 0.003 | | <0.001 |
| To have a motorcycle | -0.19 (-0.19 – -0.18) | |  | | 0.003 | | <0.001 |
| To have a housekeeper | 0.44 (0.43 – 0.44) | |  | | 0.003 | | <0.001 |
| Number of residents | -0.91 (-0.93 – -0.88 ) | |  | | 0.012 | | <0.001 |
| Number of bathrooms | 1.90 (1.89 – 1.92) | |  | | 0.012 | | <0.001 |
|  | **Model Fit** | | | | | | |
| RMSEA (95% CI) | 0.061 (0.060 – 0.061) | | | | | | |
| CFI | 0.953 | | | | | | |
| TLI | 0.938 | | | | | | |
| WRMR | 24.091 | | | | | | |
| SRMR | 0.054 | | | | | | |
| **Dietary sweets consumption** | **Standard coefficient (95%CI)** | |  | | **SE** | | **p-value** |
| Sweets consumption | 1.00 (1.00 – 1.00) | |  | | 0.001 | | <0.001 |
| Soft drink consumption | 1.21 (0.93 – 1.49) | |  | | 0.143 | | <0.001 |
|  | **Model Fit** | | | | | | |
| RMSEA (95% CI) | 0.042 (0.041 – 0.043) | | | | | | |
| CFI | 0.962 | | | | | | |
| TLI | 0.937 | | | | | | |
| WRMR | 26.092 | | | | | | |
| SRMR | 0.052 | | | | | | |
| **Hygiene habits** | **Standard coefficient (95%CI)** |  | | **SE** | | **p-value** | |
| Wash your hands before eating | 1.00 (1.00 – 1.00) |  | | 0.001 | | <0.001 | |
| Wash your hands after using the bathroom | 0.79 (0.77 – 0.80) |  | | 0.006 | | <0.001 | |
| Soap use for washing hands | 0.80 (0.79 – 0.81) |  | | 0.006 | | <0.001 | |
|  | **Model Fit** | | | | | | |
| RMSEA (95% CI) | 0.001 (0.001 – 0.001) | | | | | | |
| CFI | 0.999 | | | | | | |
| TLI | 0.999 | | | | | | |
| WRMR | 0.001 | | | | | | |
| SRMR | 0.001 | | | | | | |
| Expected values: *Root Mean Square Error of Approximation* (RMSEA) < 0.05 and an upper limit of the 90% confidence interval (CI) below 0.08. Standardized Root Mean Square Residual (SRMR) < 0.10. *Comparative Fit Index* (CFI) and *Tucker-Lewis Index* (TLI) > 0.90. WRMR, weighted root mean square residual, value <1.0 indicated a good fit. | | | | | | | |

**Supplemental Table 3.** Logistic regression reporting Odss Ratio (OR) of the association between dental pain and co-variables in Brazilian adolescents. (n= 259,833)

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|  | **Dental Pain** | | | | |  | **E-values (lower CI)** |
| **Co-variables** | **Unadjusted Model** | |  | **Adjusted Model** | |  |
| **OR (95%CI)** | **p-value** |  | **OR (95%CI)** | **p-value** |  |
| **Brazilian regions** |  | <0.001 |  |  | <0.001 |  |  |
| North  Northeast  Southeast  South  Midwest | 1  0.90 (0.85 – 0.95)  0.90 (0.85 – 0.97)  0.86 (0.81 – 0.92)  0.99 (0.93 – 1.06) |  |  | 1  0.89 (0.84 – 0.94)  0.88 (0.82 – 0.93)  0.85 (0.79 – 0.91)  0.98 (0.92 – 1.04) |  |  | 1.50 (1.32)  1.53 (1.36)  1.63 (1.43)  - |
| **City location** |  | 0.476 |  |  | **-** |  | - |
| Countryside  Capital | 1  0.99 (0.95 – 1.02) |  |  | - |  |  |  |
| **Sex** |  | <0.001 |  |  | <0.001 |  |  |
| Female  Male | 1  0.71 (0.68 – 0.74) |  |  | 1  0.74 (0.71 – 0.77) |  |  | 2.04 (1.92) |
| **Race** |  | <0.001 |  |  | 0.077 |  |  |
| White  Black  Brown  Yellow  American Indigenous | 1  1.17 (1.10 – 1.25)  1.09 (1.05 – 1.15)  1.02 (0.92 – 1.14)  1.05 (0.93 – 1.19) |  |  | 1  1.09 (1.02 – 1.17)  1.02 (0.97 – 1.07)  0.96 (0.86 – 1.06)  0.99 (0.88 – 1.14) |  |  | 1.40 (1.16)  -  -  - |
| **Age** |  | <0.001 |  |  | <0.001 |  |  |
| 13 to 15 years  16 to 19 years | 1  1.27 (1.21 – 1.33) |  |  | 1  1.24 (1.17 – 1.31) |  |  | 1.78 (1.62) |
| **Year** |  | <0.001 |  |  | <0.001 |  |  |
| 2015  2019 | 1  0.86 (0.82 – 0.89) |  |  | 1  0.94 (0.93 – 0.95) |  |  | 1.32 (1.29) |
| **SES****LV** |  | <0.001 |  |  | <0.001 |  |  |
| 1st tertile (lower)  2nd tertile  3rd tertile (Higher) | 1  0.89 (0.85 – 0.93)  0.71 (0.67 – 0.74) |  |  | 1  0.88 (0.85 – 0.93)  0.79 (0.72 – 0.87) |  |  | 1.53 (1.36)  1.85 (1.56) |
| **Maternal schooling** |  | <0.001 |  |  | 0.003 |  |  |
| 0 to 4 years  5 to 8 years  ≥ 9 y | 1  0.89 (0.85 – 0.94)  0.76 (0.72 – 0.81) |  |  | 1  0.93 (0.88 – 0.97)  0.88 (0.82 – 0.94) |  |  | 1.36 (1.21)  1.53 (1.32) |
| **Dietary sweets consumption LV** |  | <0.001 |  |  | <0.001 |  |  |
| 1st tertile (lower)  2nd tertile  3rd tertile (Higher) | 1  1.23 (1.17 – 1.29)  1.44 (1.38 – 1.51) |  |  | 1  1.17 (1.11 – 1.22)  1.28 (1.22 – 1.34) |  |  | 1.62 (1.46)  1.88 (1.74) |
| **Alcohol consumption** |  | <0.001 |  |  | <0.001 |  |  |
| No  Yes | 1  1.50 (1.44 – 1.56) |  |  | 1  1.25 (1.19 – 1.30) |  |  | 1.81 (1.66) |
| **Tobacco consumption** |  | <0.001 |  |  | <0.001 |  |  |
| No  Yes | 1  1.50 (1.44 – 1.57) |  |  | 1  1.14 (1.07 – 1.21) |  |  | 1.54 (1.34) |
| **Iligal drugs consumption** |  | <0.001 |  |  | 0.004 |  |  |
| No  Yes | 1  1.54 (1.45 – 1.63) |  |  | 1  1.12 (1.04 – 1.22) |  |  | 1.49 (1.24) |
| **Dental service use** (last year) |  | <0.001 |  |  | <0.001 |  |  |
| No  Yes | 1  1.23 (1.17 – 1.28) |  |  | 1  1.24 (1.18 – 1.30) |  |  | 1.79 (1.64) |
| **Tooth brushing** |  | <0.001 |  |  | <0.001 |  |  |
| No  Yes | 1  0.55 (0.47 – 0.63) |  |  | 1  0.58 (0.50 – 0.67) |  |  | 2.84 (2.35) |
| **Health Self Perceived** |  | <0.001 |  |  | <0.001 |  |  |
| Positive  Negative | 1  1.54 (1.43 – 1.67) |  |  | 1  1.23 (1.14 – 1.34) |  |  | 1.76 (1.54) |
| **Bullying** |  | <0.001 |  |  | <0.001 |  |  |
| No  Yes | 1  1.43 (1.34 – 1.51) |  |  | 1  1.29 (1.21 – 1.37) |  |  | 1.90 (1.71) |
| **Familiar violence** |  | <0.001 |  |  | <0.001 |  |  |
| No  Yes | 1  1.58 (1.51 – 1.66) |  |  | 1  1.41 (1.33 – 1.47) |  |  | 2.17 (1.99) |
| **School absenteeism** |  | <0.001 |  |  | <0.001 |  |  |
| No  Yes | 1  1.46 (1.40 – 1.52) |  |  | 1  1.37 (1.31 – 1.43) |  |  | 2.08 (1.95) |
| LV: latent variable; SES: socioeconomic status | | | | | |  |  |